

# The Rife Machine Report

A History of Rife's Instruments and Frequencies.

June 2020 Edition.



# [The Rife Machine Report](#)

## **A History of Rife's Instruments and Frequencies**

Report updated 01/2020

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This report from its first writing back in 2003 has been an evolving document. The current report supersedes all previous reports that have been released.

Whenever original Rife instruments, schematics or documents have been found this report has been updated according to the information that was obtained. This report was updated in 2010 because at that time an original 1938-1939 Rife Ray #5 or Beam Ray Clinical Instrument had been found and analyzed. That instrument was built by the original 1938-1939 Beam Ray Corporation. At that time the analyzing of that instrument finally showed where the audio frequency instruments came from which Dr. Rife used in the 1950's. It was updated in 2011, 2012, 2013, 2015, and 2018 when new information came to light. about Dr. Gruner's Rife machine and John Marsh's documents.

This report has been updated at this time with five new chapters dealing with a great deal of misinformation and disinformation about Dr. Rife's methods. Some people have been introducing concepts to Dr. Rife's technology which he never believed in, or promoted. This has caused many to accept, without question, these concepts which Dr. Rife never believe in. People are free to believe in anything they want but when people are promoting these concepts and attributing some of them to Dr. Rife when he never believed in them, then this incorrect information should have the facts presented so people can understand the errors. These concepts are the "Skin Effect" myth, "Spooky Action at a Distance", "Piezoelectric Crystal filled glass Hand-cylinders", "Hand Held glass Ray Tube 30-watt output?", "Light Steam Wand" method of delivering frequencies and "Dr. Rife's RF method or the EMF Method." This information is covered in chapters, 17, 20, 21, 22, 23 and 24.

In this report we examine the way Dr. Rife's instruments were built. We look at the evidence by quoting the sources such as Dr. Rife, John Crane, John Marsh, Dr. Couche, Dr. Lara, Dr. Stafford and Bertrand L. Comparet (Dr. Rife's attorney in the 1939 Beam Ray Corporation Trial, and later John Crane's attorney for Life Labs' trial in 1961). Hopefully anyone who reads this report will have a better understanding about Dr. Rife and the methods he used. Our goal is to try to give people information so that they will know how Dr. Rife's equipment worked so that they will not be misguided by all the misinformation and disinformation that has been published on this subject.

This report, called by the same name, is also online at [www.rifevideos.com](http://www.rifevideos.com). The online report has more photos and the links to all the documents which have been quoted and are highlighted in blue. We will continue to update this paper when new information is obtained.

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## Chapter 1

### What is a Rife ray tube and how does it work?



Because some unknowledgeable people who profess to know a great deal about Dr. Rife's ray tube have claimed that it output harmful Microwaves we suggest that you also read chapter #4 of "The Rife Machine Report" along with this chapter in order to understand how Dr. Rife's ray tube never output any harmful Microwave frequencies. To read Chapter #4 click on the link below.

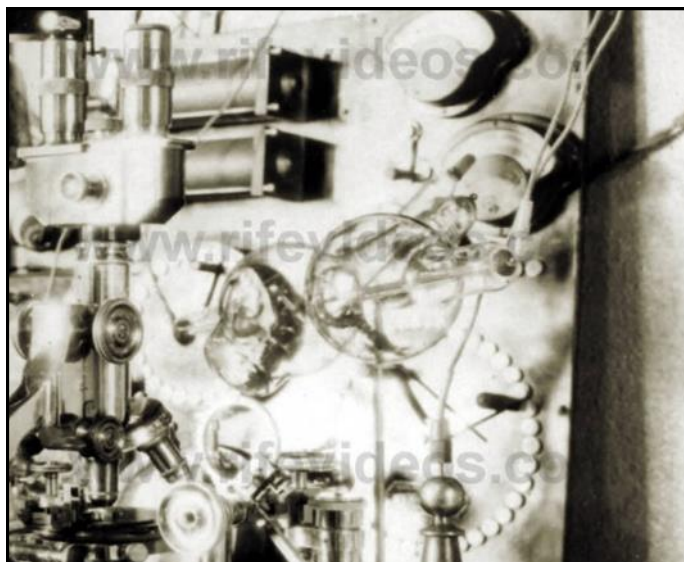
[Chapter #4: Are Dr. Rife's RF frequencies safe to use?](#)

There are also some who claim that Dr. Rife's original machine used transducers or metal hand-cylinders and footplates. This type of machine was built in 1957 by Dr. Rife's two business partners, John Crane and John Marsh, it was never used by Dr. Rife. Below is a link to another page which clearly shows that Dr. Rife only used a ray tube machine.

[What method did Dr. Rife use: A ray tube or metal hand-cylinders?](#)

Dr. Rife used a ray tube with his Rife Machines. The photo, shown above, is a picture of the style of double-bubble ray tube which Dr. Rife used for many years in his laboratory. A ray tube was made out of glass, quartz or Pyrex and was filled with a noble gas or a mixture of noble gases.

The next photo, shown below, shows Dr. Rife's double-bubble ray tube in his laboratory right next to his microscope. You will notice it looks almost exactly the same as the photo above.



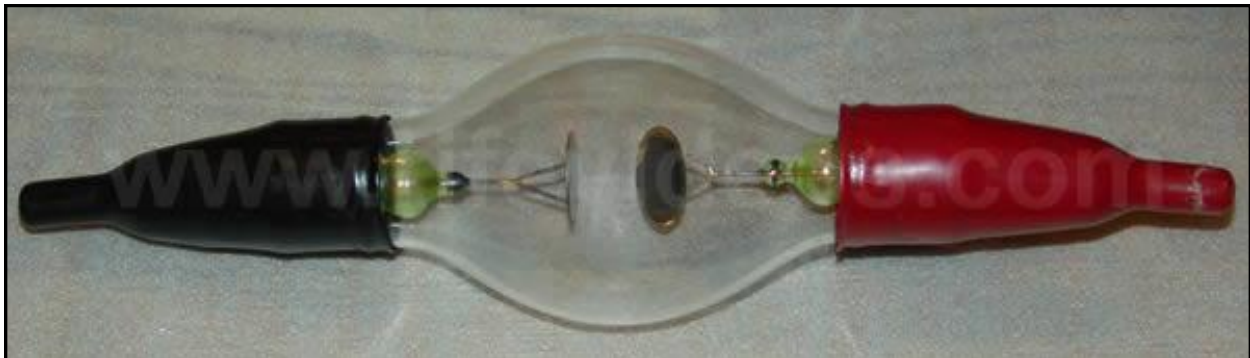


Some people believe that there was something magical to the gas mixture that Dr. Rife used in his ray tube. There are also people who claim that they use some proprietary blend of gases which makes their ray tubes work exactly like Dr. Rife's. Others even claim that their gas formula works better than Dr. Rife's did. The truth is that none of this rings true because of what Dr. Rife said on this subject. Dr. Rife knew more about these gases than most anyone else since he used different gas mixtures over a thirty-year time span. The fact is Dr. Rife used many different mixtures of gases but eventually ended up using only helium. To verify this we will read his statement:

**RIFE:** *"We have experimented with various inert gases and we found that helium stood up by the bombardment better than any of the other gases. That's why we use it. We don't care about the color or anything of that sort. It stood up better over many more hours of bombardment than the argon and the crypton [krypton] and those different gases that we tried."* ([John Marsh Collection, Gonin and Siner Papers, Page 25](#)).

From what Dr. Rife said in the above quote it is apparent that he tested many different gases over the years in his laboratory and they all worked. But we find that he eventually decided to use only helium because it lasted longer in the ray tube.

The ray tube was connected to Dr. Rife's Machine by two wires. These wires were connected to two round metal bars that went into the glass tube and they had round disks connected to their ends. One disk was straight and the other one was on a 45-degree angle. This gave it a directional effect towards the patient. Below is a photo showing the internal electrodes that were built into the ray tube. You can see that one is straight and the other is on a 45-degree angle.



Dr. Rife stated that the ray tube was "a partial directional antenna". Because the scientific technology behind ray tubes had already been perfected, Dr. Rife worked with that technology and only had to make some adjustments for it to work the way he wanted it to in his applications. Bertrand L. Comparet, Dr. Rife's attorney, stated in an interview the following:

**COMPARET:** *"Now, the original instrument had a tube, like an X-ray tube. That was the way in which Rife developed it. You see, all the X-ray work necessarily was done with a beam projected from a tube. So, Rife worked on the same basis."* ([1970's Bertrand Comparet Interview #32](#)).

Although Dr. Rife used X-ray tubes in his work they did not put out any X-rays. Because the ray tubes used inert noble gases they did not produce X-rays. They work on the same principle as a neon sign. The gas that is used in a neon sign does not produce any harmful rays of any kind. Inert gases such as helium, argon, krypton, neon, and others can safely be used in these ray tubes. These gases are considered noble gases and there are 18 different types. The ray tube is just an antenna and the noble gas will emit the frequency when the plasma is lit. This makes a ray tube a safe method of delivering the frequencies. If you use a metal antenna with 50-watts and someone just happened to touch it they would receive severe third-degree RF (Radio Frequency) burns. In 1958 Dr. Rife, John Crane and

John Marsh had the ray tubes tested to verify that they did not output any harmful X-rays. Later in 1972, John Marsh had another test done. [Click here for the 1958 document](#) and [here for the 1972 document](#).

Many people believe that ray tubes are just as efficient as metal antennas, and this may be true. They also believe that the energy emitted from a ray tube will actually travel farther with less loss than a metal antenna. Since there are no actual scientific tests comparing the output of ray tubes to metal antennas it is hard to know for sure if these assumptions are correct. For this report, we will accept what is known, not what is unknown. Therefore we will compare ray tubes to metal antennas since they both are designed to emit frequencies. There are limitations to metal antennas that need to be understood and this has to do with the laws of physics. It is referred to as the "[Inverse-Square Law](#)". This law deals with power loss and distance. We will give a simple explanation which should suffice since we are trying to stay in layman's terms and make it easy for the average person to understand this information. When a circuit is properly tuned metal antennas are very efficient. About 100% of the energy that you put into a metal antenna comes out, but only if the impedance is matched correctly.

Dr. Rife's Rife Ray #3 instrument information which has been obtained from the Rife documents list that about 50-watts RF was input into the ray tube. If we compare this to a metal antenna this means about 50-watts would have passed through and come out of the ray tube. When it comes to metal antennas and the inverse-square law on signal loss this would mean that you would have to divide the 50-watts which come out of the metal antenna by the distance squared for every foot that you move away from the antenna. The exact power loss of a ray tube, as stated before, is not known but if a ray tube is equally as efficient as a metal antenna, and we believe it is, then the same laws of physics would also apply to it.

Because no actual scientific tests have been done with ray tubes demonstrating that they are exempt from the inverse-square law then we are left with only one conclusion, this law does apply to ray tubes. Because of this, we will use this inverse-square law of power loss for a ray tube. Therefore, with a 50-watt power output at one foot away ( $1 \times 1 = 1$ .  $50 \div 1 = 50$ ) from the ray tube, you would have 50-watts. At two feet ( $2 \times 2 = 4$ .  $50 \div 4 = 12.5$ ) you only have 12.5-watts and at 3 feet ( $3 \times 3 = 9$ .  $50 \div 9 = 5.5$ ) you only have 5.5-watts. The laws of physics are important to understand because Dr. Rife and the doctors that used his equipment put the ray tube within a few inches to a few feet of the patient's body. One of Dr. Rife's 1950's business partners, John Marsh, wrote a paper in which he stated that the Ray tube should be used from 12 to 24 inches from the body:

**MARSH:** *"A frequency instrument with therapeutic applications which has been developed and successfully tested over a period of year's works on the principle of stimulating tissue with low energy, low frequency pulsating current. It applies electron transmission at variable frequencies from an applicator source, which consists of either (1) a bare anode and cathode (in direct contact with the body) and constructed from metal for easy transmission flow of electrons, or (2) from an antenna broadcast source at a distance of 12 to 24 inches."* (An Explanation of the JLMSQ-1A frequency instrument and its use. [Page 1](#), [Page 2](#)).

In another paper written in 1959 entitled "[Electron Therapy](#)", this same distance is mention twice. Dr. Couche said that he would sometimes touch the body of the patient in the area that needed to be treated. When we discussed this with [Dr. Robert P. Stafford M.D.](#), he said that when he treated cancer patients he would put the ray tube within a few inches of the body and treat a 6-inch square area. He would move the ray tube up and down and back and forth so that the whole 6-inch area was treated. He said that he did this because of the way the phanotron (ray tube nickname) ray tube worked. The design of a phanotron ray tube makes it partially directional and concentrates its energy or power into a smaller area. Due to the "Inverse-square law" power loss, it is easy to understand why Dr. Stafford, Dr. Couche, Dr. Rife and the other doctors used the ray tube close the body. Many people

have used these RF (Radio Frequency) ray tube instruments and have noticed that within a 10 to 15-foot radius they get strong reactions and by about 30 feet the effect is minimal. It is apparent that the closer you are the greater the power absorption is and this is why the ray tube was used close to the body. From these statements, we have quoted it would appear that Dr. Rife's ray tube instruments had a very limited range, but this assumption would be incorrect. The next quotes will clearly show that Dr. Rife's 75-watt 1936/1939 #5 instrument had a large effective range beyond a 30-foot radius. This quote is taken from the "Electro-Magnetic Force Field Treatments" document clearly states that the control rats, those rats they injected with the organism but did not want to be treated, needed to be kept at least 80 feet away from the plasma tube. We quote:

**NOTE:** *"Be sure to isolate the rats that were injected from all of those being treated as these Radio Waves can travel a distance from the area of treatment. I'd suggest no less than 80 feet or more from the rest being treated. The rats that are injected for control purposes should not come in contact with the treatments given to the other groups, for safety purposes in testing. Much care in this area [should] be given."* "Electro-Magnetic Force Field Treatments"

[http://www.rifevideos.com/instructions\\_for\\_the\\_use\\_of\\_the\\_rife\\_frequency\\_instruments.html](http://www.rifevideos.com/instructions_for_the_use_of_the_rife_frequency_instruments.html)

This **"no less than 80 feet or more"** quote shows the plasma tube output had a large radius range. If a 30-foot radius was not possible then why did they so strongly emphasize the 80 feet distance of separation that needed to be used during the tests? The 1936/1939 #5 instrument was only a 75-watt output machine using an RF carrier frequency in the 3 Megahertz range. It is clear that it had more than a 30-foot radius range. It is also apparent that the greater the power the greater the range. This next quote from Dr. Milbank Johnson M.D. is from a letter he wrote in November of 1936 when they were testing the 75-watt 1936/1939 #5 instrument. As you read this quote you will notice that Dr. Johnson's laboratory probably had several rooms so it was not a small building and could have easily been 60 feet to 80 long. But even if it was only 40 or 50-feet long this would still be more than a 30-foot radius. We quote:

**DR. JOHNSON:** *"Last summer, in hunting for the M.O.R. for the other two reproductive forms of the cryptomyces pleomorphia, we ran into a new band of oscillations which introduced itself to us by killing all three forms - those that we called BX, our filter-passing form; then a transitional form such as you found in the monocytes in the blood; and then the third or highly developed form coming from the sporangium forming from the hyphae of the mycelium. At the same time that this new wave band arrived, we broke all the glass in the laboratory of a certain shape, not only in the room where we were working but in all the other rooms...we had been troubled a great deal with a mold because in the microscope room there were no windows, but this band not only destroyed that mold, which was growing on the leather objects in the room, but every bacteriological culture that we had in the laboratory! It cleaned us out completely so we had to start from scratch and replace our losses. In fact, we were all so surprised that we began to feel each other's pulses to see if we were still alive. As no harm had been done to us, we proceeded to test the new band [harmonic sidebands method] out on mice, rats, rabbits, guinea pigs and dogs. So far as we were able to discover, it is not at all destructive or injurious to normal cell tissue. While we have been forced to modify our machine so as to produce this new band, still it is so much more effective clinically that we look upon it as a very advantageous discovery. However, our experience has forced us to do all of our experimenting with the new ray [1936/1939 #5 or Beam Ray Clinical instrument] completely outside of our laboratory building or abandon all form of bacteriological experiments, because it instantly kills them all." (Letter from Dr. Johnson to Dr. Gruner (copy sent to Dr. Rife) dated, November 4, 1936. Page 1, Page 2).*

[http://www.rifevideos.com/chapter\\_9\\_1938\\_to\\_1939\\_beam\\_ray\\_corporation\\_clinical\\_rife\\_machine.html](http://www.rifevideos.com/chapter_9_1938_to_1939_beam_ray_corporation_clinical_rife_machine.html)

It is obvious from this quote that the 75-watt output from the plasma tube of the 1936/1939 #5 machine was not limited to a 10 inch to 2 feet distance. For it to have been capable of doing what Dr. Milbank Johnson M.D., described it had to have had a greater range than just a 30-foot radius. It is ap-

parent that the 80-foot distance or radius was necessary because they had to move all of their animal testings outside of the lab. This was all done with just a 75-watt ray tube machine with an RF carrier frequency in the 3 Megahertz range. If an instrument has a 100 to 200-watt power output then the distance would be greater according to the instrument's power output. From these quoted statements we find that the ray tube was used close to the animals and patients for the greatest power transfer but it also had a much greater range than just a 30-foot radius.

Some people do not understand that all of Dr. Rife's ray tube instruments of at least 50 to 75-watts output, had this 30 foot or larger radius range. Because they do not understand this fact they promote the concept of "Resonant Capacitive Coupling" and the use of a 20 Megahertz or higher RF carrier frequency for their instruments 30-foot plasma tube radius range. They also claim that no other instruments with lower RF carrier frequencies, such as the 3 Megahertz frequency range, used in the 1936/1939 Rife Ray #5 had this radius range. Both the 80-foot quote and Dr. Milbank Johnson's quotes clearly show that the 1930's/1950's instruments had this 30-foot radius range even with a 3 Megahertz carrier frequency. It is apparent that all RF carrier plasma tube instruments with 50 to 75-watts of power output have this same capability regardless of the RF carrier frequency range used. If "Resonant Capacitive Coupling" is actually part of the equation of how a plasma tube works then these quotes prove it is not limited to the 20 Megahertz carrier frequency range.

What is also very interesting is people who promote "Resonant Capacitive Coupling" also claim that their instruments are not governed by the "Inverse Square Law." There is no scientific evidence backing this claim. Regardless of what anyone may claim all ray tube instruments are governed by the "Inverse Square Law" of physics. This 30 foot radius range capability is not based on a higher RF carrier frequency, but is a natural RF (Radio Frequency) plasma tube function based on the power output of the instrument. What "Resonant Capacitive Coupling" mostly deals with is short distance wireless power transfer like that used with wireless cell phone chargers. Here are two links to videos about this subject the reader may want to watch. The possibilities of that technology will make many things possible in the near future.

<https://www.youtube.com/watch?v=-Wf7aadxBkE>

<https://www.youtube.com/watch?v=Gw6XtzEOIyl>

Anyone who is willing to do some reading will find proof that the human body resonance is far more complex than what most people understand. "Resonant Capacitive Coupling" is not capable of resonating with the whole body. This next quote is taken from the "Scientific Report of the Harvard Education Courses of 1997" and gives more understanding about how RF frequencies interact with human tissue. It clearly explains how complex the human body is and how it is impossible for the body to have a single resonant frequency. We recommend that you read this entire report:

**REPORT:** *"How does RF radiation interact with human tissue? A radio wave in space is characterized by its frequency, intensity of electric and magnetic fields, direction, and polarization. The interaction of external radio waves with biological bodies produces internal electric and magnetic fields, which can be calculated by solving Maxwell's equations for the given boundary conditions. This becomes a complex problem, however, because biological bodies are heterogeneous and complex in shape, making an exact solution impossible. In addition, the intensity of the internal field is greatly dependent on the boundary conditions under which the external field is applied. The frequency, intensity, and polarization of the field, in addition to the size, shape, dielectric properties of the exposed body, the spatial configuration of the exposure source and the body, and the presence of other objects in the vicinity, play a big role in the effect the radio waves will have on the body. For this reason, the internal field created in a mouse under a given external field will be much different than the internal field created in a man under the same external field. Exact field strength is dependent on local geometry: in a man standing in a field perpendicular to the ground, the average current density in the legs is greater than in the trunk, by a factor that corresponds to the ratio of the cross sectional areas of the trunk and leg. Absorbed energy*



depends on the size of the body, curvature of its surface, ratio of body size to wavelength, and the source characteristics. The frequency of maximal absorption is called the resonance frequency (for humans it is between 70 and 100 MHz), and depends on orientation with respect to the incident field. In general, the rule is that the shorter the subject, the higher the resonance frequency, and vice versa.  
[http://www.rifevideos.com/absorption\\_of\\_rf\\_radiation.html](http://www.rifevideos.com/absorption_of_rf_radiation.html)

This report explains how complex body resonance really is. The body's dielectric properties, frequency, intensity, and polarization of the field including size, shape, length, trunk, legs, curvature, standing, sitting or laying down making it impossible to have a specific resonant frequency because biological bodies are heterogeneous and are very complex in shape. This report points out that even objects in a room will have an effect. For all of these reasons, no human body could ever have a specific resonant frequency and this is why they give a range of 70 to 100 Megahertz. These claims of "Resonant Capacitive Coupling" are scientifically un-provable and incorrect. Power output determines distance.

Now we will again discuss the ray tube. We built both the Aubrey Scoon Beam Ray #5 instrument and the 1953 AZ-58 Beam Ray #5 replica ray tube Rife Machine. The 1953 AZ-58 (Rife instrument made by Life Labs) was built from schematics that are on Stan Truman's site, <http://www.rife.org>, under AZ-58 research information. This AZ-58 instrument is nearly the same as the original Rife Ray #5 or Beam Ray Clinical instrument and schematics can be [found on this page](#).

Both Aubrey Scoon's instrument and the original Beam Ray instrument use sine wave audio frequencies and the 1953 AZ-58 uses square wave audio frequencies. John Crane listed the AZ-58 as outputting only 14-watts but this was not correct. We tested it and found it outputs about 50-watts. The 1950's Aubrey Scoon instrument outputs about 50-watts also but the original 1936/1939 Rife Ray #5 output 75-watts. We did some resonance tests using a crystal designed for testing resonance. The tests were done using the AZ-58 replica and the Aubrey Scoon replica Rife machine using a phanotron ray tube outputting 50-watts. The audio frequencies broadcast out of the ray tube would only resonate the crystal in front of the ray tube. When we turned the ray tube more than 45 degrees, either to the right or the left, of the center of the ray tube we could not resonate the crystal. We also could not resonate the crystal at all on the backside of the phanotron ray tube proving what Dr. Rife said was correct:

**RIFE:** *"The ray tube is a partially directional antenna."*

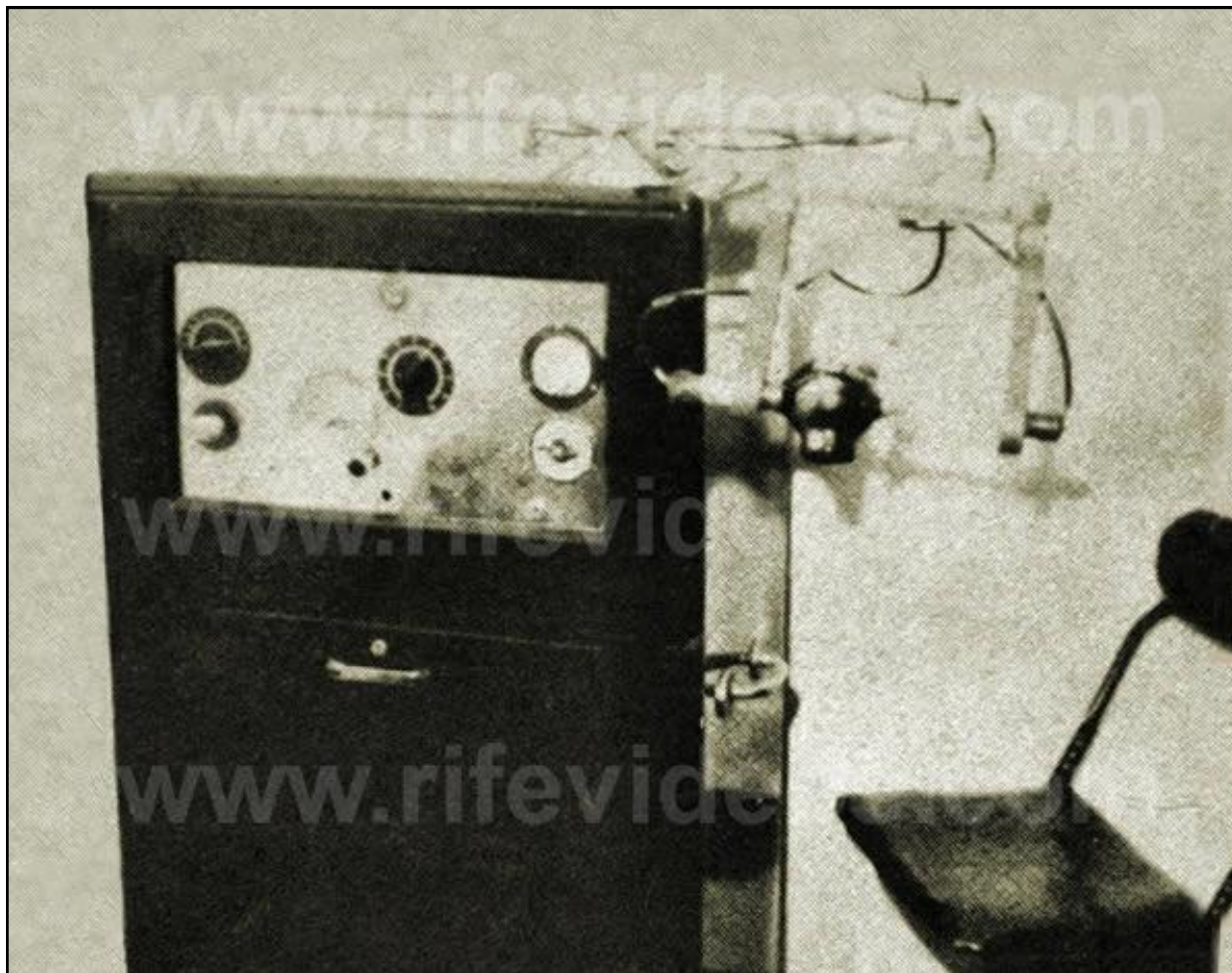
One interesting fact worth noting is the ray tubes that do not use the internal electrodes, like the Phanotron ray tube, have a higher field strength reading which indicates a greater output. These ray tubes use copper collars or wire wrapping around the ray tube. Ray tubes which use this method also last longer because the gas inside the ray tube does not get contaminated. The contamination comes from the internal metal electrodes. Over time the metal from the internal electrodes comes off and slowly contaminates the gas. It will also deposit on the inside of the glass making the ray tube go dark. In the photo below you can see how the ray tube has darkened.





The main reason Dr. Rife used the helium gas was due to the fact that it took longer for this darkening to take place. But no matter what gas was used the ray tubes would eventually darken. Today with the ray tubes that do not have the internal electrodes we can use any of the noble gases (Helium, Argon, Neon, etc.) that Dr. Rife used without worrying about any contamination. These ray tubes can last for more than 10 to 15 years without ever needing to be re-gassed.

The next photo, show below, is a picture of Dr. James B. Couche's Rife Ray #5 or Beam Ray Clinical instrument which he purchase from the original 1938-1939 Beam Ray Corporation. The ray tube is Dr. Rife's original double-bubble ray tube which he used for over 30 years in his laboratory. You can see how the ray tube has darkened. This was a common problem which required the ray tubes to be cleaned and re-gassed on a regular basis. A better view of this double-bubble ray tube is shown in the two photos on page 4.



**CHAPTER SUMMARY:** This chapter should be read with Chapter 2, Chapter 4, Chapter 17 and Chapter 18 for a complete understanding of how ray tubes work. A ray tube is a plasma antenna built for the purpose of outputting frequencies. Dr. Rife built many different styles of ray tubes. The gas used inside the ray tube does not really matter as long as it is a noble gas (Helium, Argon, Krypton, Neon, etc.). Dr. Rife settled on using helium because it lasted longer in a ray tube that uses internal electrodes. The ray tube made it possible for Dr. Rife to safely use a powerful RF (Radio Frequency) frequency instrument next to a person or microscope. Dr. Rife preferred using a ray tube over pad type instruments because a great deal more power meant a better outcome for the patient.

Many people have wondered what power levels did Dr. Rife use in his instruments. In chapter 2, of this report we will discuss the power levels of Dr. Rife's instruments.

## Chapter 2

### What power levels did Dr. Rife use in his Rife Machines?



Many people have wondered what power levels are safe to use when using an instrument like Dr. Rife's machine. According to the documents we have Dr. Rife's ray tube instruments, such as the Rife Ray #4 Rife Machine, which was listed to be able to output as much as 400 to 500-watts. When the test for B. Typhosis was made it was listed that they used 400-watts. The milliamp meter was listed at 450 milliamps for those 400-watts.

The Rife Ray #4 was the most powerful of the five machines that Dr. Rife built. Dr. Rife did not notice any problems using instruments with power levels between 50 to 500-watts of power output. Next are two statements made by Dr. Rife about the safety of his instruments:

**RIFE:** *"I have operated the frequency instrument since 1921. I have watched it advance in style and performance with the advancement of electronics. In the many years I have used this equipment in my research, I have never suffered an injury or any ill effects whatsoever. I found it reliable in performance and efficient in results."* ([Letter from Dr. Rife to Dr. Justin Stein, July 2, 1956](#)).

Also on the John Marsh, Rife audio CD's Dr. Rife made this statement about his RF frequency instrument:

**RIFE:** *"I stood in front of that thing for thirty years finding these different frequencies that devitalize these different bacteria. And that thing [RF ray tube] was shooting on me right here [his chest], but it is absolutely harmless to normal tissue and each individual bacteria requiring a different frequency to devitalize."* ([John Marsh Rife CD's](#)).

The Rife Ray #5 or Beam Ray Clinical instrument built by the Beam Ray Corporation in the 1930's output 75-watts out of the ray tube. The 1950's AZ-58 Life Labs instrument and the Aubrey Scoon 1950's instrument also only output 50-watts could have output 150-watts. Because some of Dr. Rife's information about instrument power levels is confusing, most have believed Dr. Rife's Machines put out 400 to 600-watts to the ray tube: however, the new information from the building of some of these instruments shows these assumptions are not correct. The problem has been that the people who wrote down this information were probably giving the power usage of Dr. Rife's Machines as the output power. Dr. Rife's Machines used generally about 400 to 1000-watts but they only output about 50 to 500-watts out of the ray tube. The Rife Ray #4 did output about 500-watts but this was the exception, not the rule. In the paper entitled "Development of the Rife Ray" it states:

*"The frequencies were generated by a tube oscillator with many stages [5 stages] of amplification, the final stage being a 50-watt output tube."* ([Development of the Rife Ray and use in devitalizing of pathogenic micro-organisms](#)).

This part of the description is of his pre-1935 instrument. The output tube was not the ray tube. It appears from the documents that Dr. Rife's pre-1935 instruments did not output any more power than about 50-watts out of the ray tube. He said he lit the ray tube from another power source then input the frequencies into the ray tube. When Dr. Rife, John Crane, and John Marsh were working on seawater conversion - a process that used frequencies - they boosted the output power in the instrument. Concerning that instrument and some 1930's Beam Ray instruments that Dr. Yale had increased the power level on, Dr. Rife said the following:

**RIFE:** *"Now this outfit here - the way we have it boosted up here now with an extreme lot of power behind the actual output that is coming out of the thing...I wouldn't want to use this - or I wouldn't want to use this instrument here the way it is souped up there for this salt water proposition to treat a patient with."*

**GONIN:** "No."

**RIFE:** *"You can get beyond the limit [power levels in excess of 500-watts]."*

**GONIN:** *"Yes, quite."*

**CRANE:** *"That's what Dr. Yale did. You see, he stepped it up and up and up..."*

**RIFE:** *"When Verne Thompson used to go down there and take care of Yale's machines - when he began stepping them up and so...where you get up into that extreme power...oh yes, that is not good. With the power that is in these [50 to 500-watts of power coming out of the ray tube], there is absolutely no harm because I had my microscope here - I had my tube [ray tube] right here in front of it - oh, about 11 or 12 inches away from the slide in the microscope and here I was with this thing all around like that and that tube going here and my specimens and the microscope year after year tuning that thing and it never harmed me any."* (See the photo at the beginning of this chapter for a better understanding of this statement about where the ray tube was located.) [\(1950's Gonin, Rife, Crane and Marsh Paper #27-32\).](#)

Because Dr. Yale's 1938-1939 Beam Ray Corporation Rife Machines were modified they were putting out a lot more power than Dr. Rife felt was safe. We do not know how Dr. Yale had his machines modified so it is not possible to know the exact power output they had. But he must have been exceeding the power output of the Rife Ray #4 which could output about 500-watts. It may be that Dr. Rife was just overly cautious but his statement should be considered when anyone starts using power levels in excess of 500 watts output.

Dr. Rife's power levels need to have a little clarification. The standard method of rating the power capability of a circuit is what it can output continuously. This is generally understood to be RMS (Root Mean Square). RMS calculations were originally defined to accurately express the electrical power being supplied by an AC waveform. Dr. Rife's Rife Ray #3 had a power output of 50-watts. The average power of a waveform will change depending on the waveform and the duty cycle of the waveform used. The damped waveform Dr. Rife first used did not shut off until almost the next pulse. And since a damped waveform drops off very quickly it probably had about 11% of the power in its waveform when compared to a 100% square wave duty cycle.

Dr. Rife on average used from 50 to 500-watts power in his 1930's/1950's machines. His first machine back in early 1920's output about 8 to 10-watts. He kept increasing the power output level until his 1934 Rife ray #3 machine output 50-watts. His 1935 Rife Ray #4 machine which was built in 1935 was increased to about 500 watts and this was his most powerful machine. The 1936 Rife Ray #5 machine which was called the Beam Ray Clinical machine was reduced back to a 75-watt machine. It



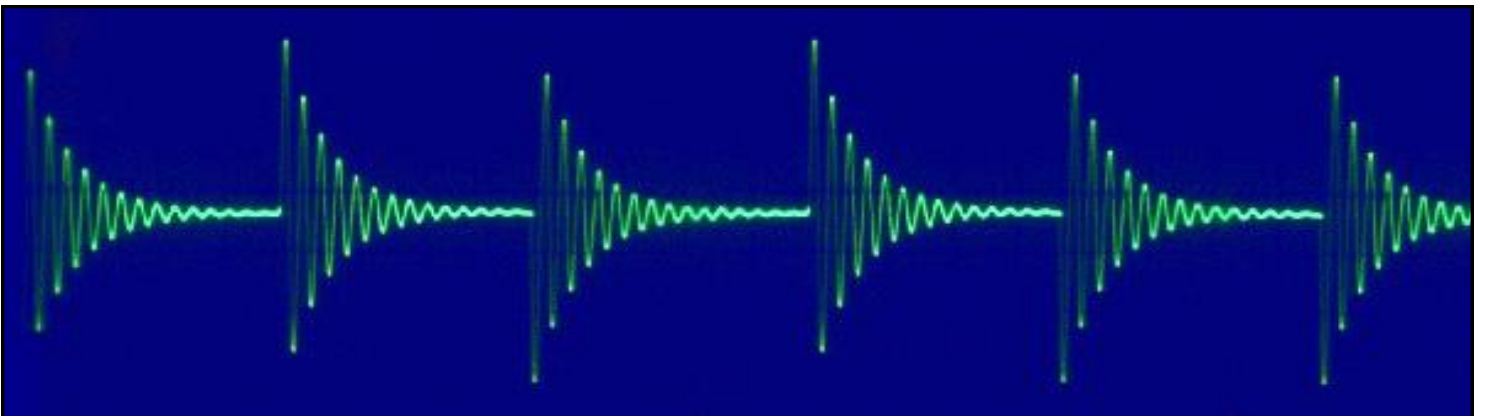
used the newer more powerful square wave waveform which was produced in a unique way. This machine was sold by the Beam Ray Corporation in 1938-1939 to doctors who wanted to use it in their medical practices. From this, we can conclude that Dr. Rife found that 50-watts was his minimum power level that should be used with a single ray tube instrument.

Today because of this understanding we generally talk about average power when discussing the type of waveforms Dr. Rife used. Peak to Peak power is not true power. Average power measurements are true power. The 1935 Rife ray #4 was listed at about 500-watts. If this was the case when modulated with the damped wave fixed audio gate frequency its power was probably only about 45-watts in its waveform. When the 1936 Rife ray #5 or Beam Ray Clinical instrument was measured its un-modulated power was about 75-watts. Because it was modulated with a 50% square wave duty cycle it had an average power of about 37.5-watts of energy in its waveform. The 1953 AZ-58 circuit was also measured and it was 50-watts. It also used a 50% square wave duty cycle so its modulated average power would have been about 25-watts. Both the 1936/1939 Rife Ray #5 and the 1953 AZ-58 used the square wave waveform on a 50% duty cycle. Using the square wave waveform made these two instruments at least two times more powerful, because of the higher average power, than the 1934 Rife Ray #3. The reason that some people focus on higher power output is due to this statement made by John Crane when he was narrating Dr. Rife's 1939 lab film.

**CRANE:** *"Now the spikes that you see on the frequencies are the lethal part that kill and devitalize the virus. They are the resonant peaks of the frequencies which increase the voltage to a very high potential which the cells of the virus wall cannot tolerate and they break up into many pieces and are destroyed."* (1939 Lab film).

From this statement, it has been understood that the high potential voltage rise in the waveform of the frequencies is what is important. Because of the way Dr. Rife's instruments worked those reading this information should understand that the peak power of an instrument is what some frequency generator companies rate their power output capabilities to be but their true power output will only be about half the peak power.

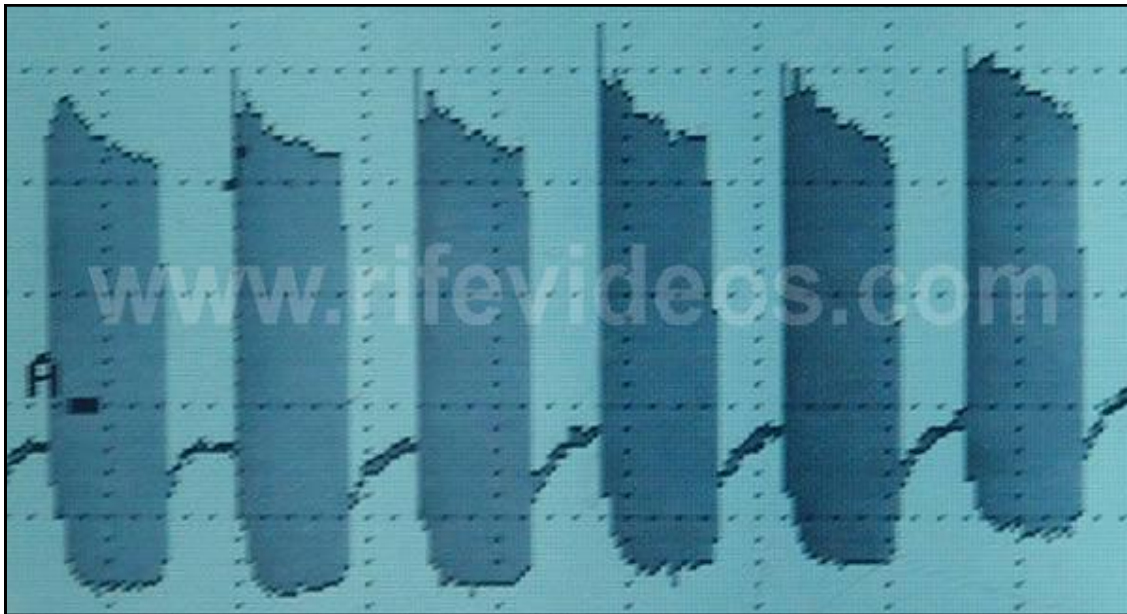
We will now discuss the power output in Dr. Rife's waveforms. From the Rife documents and the original machines which have been analyzed, we find that Dr. Rife used three different waveforms. These were a sine wave, damped wave and square wave. The damped wave was eventually replaced with a square wave because it was more powerful. We have no evidence of any other waveforms being used. It appears that the Rife Ray #1 through the Rife Ray #4 used a damped wave. The initial high RF frequencies that Dr. Rife used were a sine wave. A unique gating circuit was developed and used which modulated the higher RF sine wave frequency and this shaped the sine wave into a damped wave. The photo below is what a damped wave looks like. This shaping of the sine wave into a damped wave created a high potential voltage rise on the leading edge of the waveform. This made it so the waveform pulsed. The pulsing was too fast for the eye to see but it affected the microorganisms. This damped waveform will be discussed later in this report.



Various waveforms have different power levels in them. A damped waveform only has about 11% power in it. This is due to the fact that it rises very quickly but it also drops off very quickly. To put this into perspective let's take into consideration Dr. Rife's power level in the Rife Ray #4. It had a power output of 500-watts. Though the instrument was capable of producing 500-watts the damped waveform was only equal to being on for 11% of the time. This is referred to as a waveform's duty cycle. A waveform has an ON and OFF time. The ON time of the damped waveform was only ON for 11% of the time and OFF for 89% of the time. Though the Rife Ray #4 was a 500-watt machine it only had about 45-watts of energy in its waveform because the waveform was only ON for 11% of the time which produced the 500-watt pulses. The duty cycle of a waveform determines two things; it determines the power used and the power that is output through the ray tube.

After the clinic of 1934, Dr. Rife and Dr. Johnson wanted a more powerful machine. The Rife Ray #3 was used in that clinic and it was a 50-watt machine. But due to the fact that it also used a damped wave it only had 11% of the energy in its waveform. When you divide the 50-watts of power by the 11% ON time this means there were only 5.5-watts of energy output in its waveform at 50-watts for 11% of the time. It was for this reason that they built the Rife Ray #4 with the 500-watt output.

The Rife Ray #4 worked very well with this new power output but it had some drawbacks. By the summer of 1936 Dr. Rife's engineer, Philip Hoyland, designed and built a new machine called the Rife Ray #5 or Beam Ray Clinical machine. This machine was reduced back to 75-watts. Reducing it back to 75-watts was made possible because of the new waveform it used. Instead of using a damped waveform it used a square wave waveform. The square wave waveform can give you 100% of the power in the waveform for the time that it is ON. Below is a photo of Philip Hoyland's new waveform taken from one of his original Rife Ray #5 or Beam Ray clinical machines.



Anyone looking at this waveform can see that it is just a poor quality square wave. The rise and fall times are good but the top of the waveform is slanted down on an angle. By the 1950s this waveform was replaced with a very good square wave. What is significant about this waveform is the power that is in it. This waveform is basically a 50% ON 50% OFF duty cycle.

To put this into perspective this new square wave waveform has 50% of the total output power in its waveform. So the 1936 Rife Ray #5 or Beam Ray clinical instrument had 37.5-watts of power in its waveform when modulating with a 50% square wave duty cycle. The Rife Ray #4 had 45-watts of power in its waveform when modulated with an 11% damped wave duty cycle. And the Rife Ray #3 only had 5.5-watts of power in its waveform when modulated with an 11% damped wave duty cycle.



The square wave waveform made it possible to build a machine that was reduced back to the 75-watt power level which could rival the 500-watt Rife Ray #4 machine. It was said of the Rife Ray #5 or Beam Ray Clinical machine that it worked better than any of the previous machines. This Rife Ray #5 will be discussed in greater detail later in this report.

It is apparent from all of Dr. Rife's ray tube machines that the power level was important. Once he reached 50-watts he never reduced that power level. It is easy to conclude from this information that any power level that is less than 50-watts, when using a ray tube instrument, would be considered underpowered and greatly limited. We can also conclude that the square wave waveform is the best waveform to use and all others would be less effective. Below is a chart showing the power output capabilities of several waveforms. You can see why you would not want to use most of them. Square waves and sine waves have the greatest power levels in them. All of the other waveforms are not worth using and will only give reduced results.

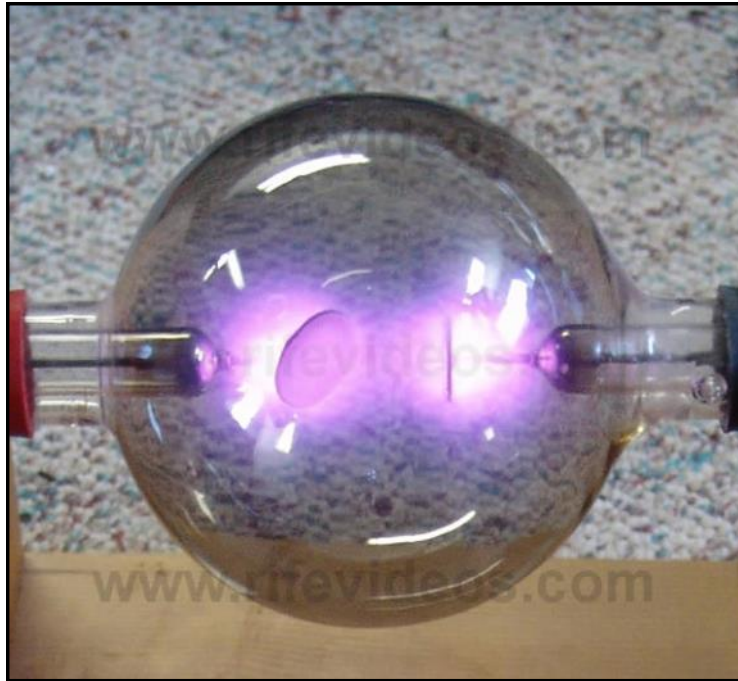
Square Wave	100%	Linear Ramp Down	33%
Trapeziod	94%	Triangle	33%
Exponential Ramp Down	53%	Even Order Harmonics	32%
Sine Wave	50%	Exponential Ramp Up	20%
Odd Order Harmonics	42%	Damped Wave	11%
Linear Ramp Up	34%		

**CHAPTER SUMMARY:** Dr. Rife's ray tube instruments output anywhere between 50 to 500-watts of RF (Radio Frequency) power levels. Dr. Rife found that his instruments were safe to use with power levels between 50 to 500-watts. Power levels in excess of about 500-watts were not recommended by Dr. Rife. Philip Hoyland's use of a square wave waveform made it possible to have more power output in Dr. Rife's machines.

In chapter 3, we will discuss whether it is absolutely necessary that a ray tube should be used or if it is possible to use the contact type method developed by his two business partners, John Crane, and John Marsh.

## Chapter 3

### Is it necessary to use a Ray tube to output the frequencies?



We really shouldn't care if an instrument uses a ray tube or hand cylinders and footplates (commonly called pad instruments) as long as it will devitalize the microorganism we desire. In the next photo, shown below, we see one of the first pad instruments built by John Crane and John Marsh back in the late 1950's early 1960's. You can see the aluminum disks which were used to come in contact with the body and deliver the frequencies. In the strictest sense of the word just because a ray tube is used doesn't mean its "Rife." By the time you read this whole report, you will find out that very few are doing exactly what Dr. Rife did. But does this mean that these instruments don't work? Most of those who are building pad instruments are not using ray tubes. Also, most are not using Dr. Rife's original frequencies. Many of those who are building ray tube instruments are also not using Dr. Rife's original frequencies or methods. So where does this really leave us since very few are really doing what Dr. Rife did?



We have quite a paradox. This is the problem we face. If we were to build a ray tube Rife Machine that worked exactly the way Dr. Rife did and use frequencies from 139,200 to 1,607,450 Hertz then we would have an instrument that could cause interference with AM radio stations if we were too close to them. These ray tube instruments may have to be used with a Faraday cage which is a conducting cage used to stop electromagnetic fields. We may be able to use them as long as we do not operate them within one half of a mile of a radio station on that station's particular wavelength or call number. We can build a metal hand-cylinder type pad instrument that will use all of the frequencies Dr. Rife's Machines used but then we are not using a ray tube. When we consider the problems we face today with building instruments, the least expensive instrument we can build is a metal hand-cylinder style pad instrument. This type of instrument can produce all of Dr. Rife's frequencies output by his Rife Machine. Therefore we should look at this method carefully and not reject it out of personal bias.

As we already said, it really shouldn't matter if an instrument uses pads or a ray tube as long as it works. With this in mind let's look at the reasons why pad instruments were built in the first place. John Crane and John Marsh had really good reasons why they built pad instruments. After nearly 50 years of research and use, there is enough evidence that a pad instrument may work just as well as a ray tube instrument, as long as there is sufficient power used. In some cases, because of the electrical stimulation like a T.E.N.S. instrument, they may work even better than a ray tube on some problems. We will now take a look at some of the reasons that prompted John Crane and John Marsh to use pads:

**RIFE:** *"But the principle of this thing is basically built on a coordinative vibration. Just like one tuning fork pitched to the C. Another one here—you strike this one and this one vibrates."*

**DR. LARA:** *"What kind of vibration is it? Electromagnetic vibration?"*

**RIFE:** *"We won't say magnetic, we will say electronic frequency vibration. The same as put out on a broadcasting station for the radio. The same thing you know, only it's transmitted into a tube. And the tube acts as a partial directional antenna you see."* ([John Marsh Rife CDs - CD 6 track 2](#)).

In the John Marsh papers describing his trip to Ohio we read a statement made by Dr. Rife:

**RIFE:** *"You know we had an idea when we had our Clinic in La Jolla, of course that was battery and motor generator operated that set, you know, and boy it would sure raise the devil with all the radios so we had a couple of cars that was equipped with car radios and we sent them out and we would take the switch of that thing, and had a code you know like an S.O.S., and one of them went up north, and one of them went south from La Jolla. Before we started in we wanted to see how far we were going to disturb things with it you know, and incidentally we had it in a steel room, a steel lined vault about this size at the old Ellen Scripp's home. It was the vault in the library of the Scripp's home where they kept their valuable manuscripts and books in all steel lined and a door on it like a safe. We had the thing inside of that too, but it didn't make much difference, but we started in, and one car lost the pick up on top of Torrey Pines, and the other one half ways through Mission Beach picked it up, and then they could go a hundred feet and lose and then they would have to pick it up again. Old Henry [Henry Siner] the boy that was with us out there, one of the lab boys, boy he went up in the air. He says, "By God" he says "look, we're going to fix them up right. At two o'clock we'll hook this up to a big radio station, a big transmitting station, and at two o'clock next week we'll broadcast for tuberculosis, and at half past three the week after we will broadcast for cancer, and everybody at the radio will pick it up". See, boy I said Henry that really is an idea."* ([1957 John Marsh Trip to Ohio Paper #24](#)).

In 1960 one of Dr. Rife's close friends, Ben Cullen, stated in a talk given at a Rife Virus Microscope Conference the following:

**CULLEN:** *“The fact is, had it not been for certain very, very unpleasant circumstances, Dr. Rife would've had an arrangement with KFI or KFSD [Radio stations] where he would have been broadcasting out over quite a large radius from each broadcasting station the rays which are responsible for eradicating these various viruses, which we now know as being "killing" viruses. Just imagine as you walked around shopping downtown, or out in the street, you would receive the rays of this wonderful current.”* ([Ben Cullen's 1960 talk given at the First International Convention of the Rife Virus Microscope #G](#)).

These two statements made by Dr. Rife and Ben Cullen were made over 20 years after the 1934 clinic. Dr. Rife knew that the frequencies would broadcast from a metal antenna just as well as from a ray tube. The fact that he felt that Henry Siner's idea was a good idea and the fact that he wanted to use a radio station indicates that Dr. Rife knew a metal antenna would give the same results as a ray tube. It is apparent from what we have read that Dr. Rife believed it was the frequency that was de-vitalizing the organism and the method of application really didn't matter. Clearly, Dr. Rife understood that the frequencies could be broadcast by a radio station, using a metal antenna, if they had enough power.

When John Crane and John Marsh, Dr. Rife's two business partners in the 1950's, came to understand this, they eliminated the ray tube and used pads or hand cylinders to apply the frequencies. The pads and hand cylinders work just like a metal antenna except you do not want too much power so that they are safe to use. The body also becomes an antenna when you hold the hand cylinders or use the pads and this is why pad instruments work. Bertrand Comparet stated this in his interview:

**COMPARET:** *“Now, Crane said “Well now look, Rife himself admits that no matter how much tube and ray, and so on, you have, you can't get any results unless you've got the right frequency. Therefore the real clue to the thing is the frequency and not the means by which you deliver it.” Comparet also said: “Well, Crane originally was, with more modern techniques, duplicating the Rife machine, tube and all for early experiments. And, as I say, he came to the conclusion that you just weren't getting anything additional by the use of the tube. If you didn't get the frequency, you could run the rest of it indefinitely and nothing happened. So, what Crane did, he got an audio frequency generator. Now, you could make them up yourself by an awful lot of work, or you could buy a Heathkit audio frequency generator and get all the same results with a lot less time and effort. So he was using these Heathkit generators. Now, instead of a beam projected from a tube, a ray, he simply had two wires. I think they were aluminum knobs on the end of them, which would be used. They would be put on the body in such a position that the natural flow of the current from one to the other would go through the diseased area, and he got astonishing results.”* ([1970's Bertrand Comparet Interview #33 & 47](#)).

These pads or hand cylinders act just like an antenna when in contact with the body, but only if you have an RF carrier frequency and sufficient power. This is where John Crane and John Marsh made a critical error, we believe, and the reason Dr. Rife probably did not like their pad instrument. Without an RF carrier frequency, you cannot use enough power and the audio frequencies will only go through the connective tissue and not the cell. There are exceptions to the cell and they have to do with the waveform of the frequency. If a square wave audio frequency is used then the higher harmonics produced from this waveform may penetrate the cell to some degree. How much power from these harmonics penetrates the cell is not known. But this may explain why instruments that do not use an RF carrier frequency also seem to work well on small areas of the body. Even John Crane and John Marsh understood that their 1/5th of 1-watt pad instrument was limited to small areas of the body due to its low power output. In the 1959 “Electron Therapy Report” page 5 we read the following:

**ELECTRON THERAPY:** *“In the last years this technique has received new impetus due, on one hand to the availability and tremendous progress in electronic parts and test equipment, and on the other hand, to the discovery of direct application to the body [Metal hand cylinders and footplates] without the*



*need of an applicator tube [Ray Tube]. The problem of adequate coverage with this method is manifold as only small areas of the body are treated at one time with a single instrument. Additional amplification with metal harnesses or electrodes covering many areas simultaneously are contemplated for future development.”* ([Electron Therapy Report](#)).

As can be seen from this report they understood that the low power level limited their pad instrument to "small areas of the body." Dr. Rife expressed his dislike for John Crane and John Marsh's pad instrument. Bertrand Comparet talked about this fact in a 1970's interview:

**COMPARET:** *“And I asked Rife, because I thought Rife would certainly say that the way Crane was working on it then was still using the Rife principle, but he indignantly denied it.”*

**DR. HUBBARD:** *“All right, I see. But, getting back, you say that Rife was very indignant, that the machine that Crane was building was really his [Crane's] idea. I suppose he did not compromise on that, did he?”*

**COMPARET:** *“Oh no, he just blew up.”* ([1970's Bertrand Comparet interview #32 & 40](#)).

It is apparent that Dr. Rife was upset about John Crane and John Marsh's new pad instrument. Dr. Rife understood that frequencies could be broadcast from a metal antenna because he was looking at using a radio station antenna to broadcast the frequencies over a large area. So the concept of using metal hand cylinders and footplates does not appear to be the problem. Dr. Rife had built and used machines for thirty years and he understood what power levels it took to devitalize microorganisms. Since the concept of using metal hand cylinders and footplates has been eliminated then the only thing left is the power level. So it appears it was the low power level that was the problem. It wasn't until about 2003 that the first powerful "Pad" instrument was developed which used an RF or radio carrier frequency. Using an RF or radio carrier frequency finally made it possible to build "Pad" instruments with high power levels. Using this new method made it possible to have 5 to 35-watts peak power using this method. In a newspaper article found in The Evening Tribune entitled [“Dread Disease Germs Destroyed By Rays, Claim Of S.D Scientist”](#) from May 5, 1938 we read that Dr. Rife's first instrument had an 8 to 10-watt power output:

**EVENING TRIBUNE:** *“Rife built a simple frequency generating apparatus of about 8 or 10 watts output. He grew some cultures of bacteria. Then he began the studies whose reported results now promise to revolutionize the entire theory and the whole treatment of the human diseases, other than those of a functional or accidental nature.”*

Since Dr. Rife's first instrument was an 8 to 10-watt instrument then it was between 40 to 50 times more powerful than the first pad instrument built by John Crane and John Marsh. Dr. Rife eventually increased the power level to 50-watts and one of his ray tube instruments was about 400-watts. His 50-watt instrument was 250 times more powerful than the first "Pad" instrument. It is no wonder that Dr. Rife was doubtful about the capability of John Crane and John Marsh's first "Pad" instrument with its 1/5th of 1-watt power level. All of these statements we have quoted show that an instrument which only has a 1/5th of 1-watt power output is greatly underpowered. Even with Dr. Rife's 50-watt ray tube instrument, the ray tube had to be close to the body for it to work correctly. Dr. Rife always treated the animals within 24 inches of the ray tube. The doctors that used his ray tube instrument usually treated their patients within 12 inches of the patient's body.

When it comes to the ray tube some people have thought that it was the color of the light from the ray tube that made the Rife Machine work. But the evidence doesn't seem to support that concept either because, in the Gonin Papers of John Marsh, Dr. Rife said this with regard to the light that came from the ray tube:



**RIFE:** *"We don't care about the color or anything of that sort."* ([John Marsh Collection, Gonin Papers, Page 25](#)).

Dr. Couche, while visiting Dr. Rife's lab with some other men, said:

**DR. COUCHE:** *"There was fifteen inches of concrete on the floor so as to stop any earthquake shocks from interfering with his work. And in his laboratory upon the ground floor he had a microscope with a slide on it that this group of people and myself looked at. And this was not stained, there was no killing of the bacteria on it. It was just a fresh culture of the colon bacillus....Well we all went down under the stairs into the cellar right immediately under the microscope upon the floor above us and the Rife machine was down in underneath there under the culture in the cellar probably I suppose about ten feet away, eight or ten feet away. And he turned the machine on and gave it less than a half minute's frequency for the colon bacillus...Then he turned the machine off and we all came upstairs and waited for ten or fifteen minutes. And presently he came back to his microscope and he said, "Well gentlemen come and look at the slide now." Well to my astonishment the bacilli all had been killed and they were all stacked up on the slide."* ([John Marsh Rife CDs - CD 3 track 1](#)).

There is no possible way the light from the ray tube of the Rife Machine could have penetrated that fifteen-inch concrete floor. It is obvious that the light didn't make any difference but that it was the frequencies that were broadcast through the ray tube. It is easy to see that there is more than one way to deliver the frequencies. The ray tube could be easily replaced with metal hand-cylinders and metal footpads. It is interesting to note here that Dr. Rife said Abrams' Oscilloclast would devitalize the BX cancer virus and it was a contact type device. The waveform the Oscilloclast produced is shown in Dr. Rife's 1936 film. John Crane and John Marsh probably used this contact method because of the success of Abrams' instrument. The Abrams' instrument proved that a contact type device would work and it was used before Dr. Rife even started using a ray tube. In fact, Abrams' contact instrument predates all of Dr. Rife's work. Pad instruments like Abrams' instrument come in contact with the body. Abram's instrument worked on the same RF principles as Dr. Rife's instruments. Pad instruments with an RF carrier turn the body into an antenna and work on the same principle as a metal antenna or ray tube. People have been using pad instruments without an RF carrier for over 60 years now and have had very good results. But, in order to work the way the ray tube instruments do, an RF carrier frequency is necessary.

**CHAPTER SUMMARY:** This chapter should be read with chapters 17 and 18 for a complete understanding of how a metal hand-cylinder pad type instrument works. Dr. Rife knew that a metal antenna could be used in place of a ray tube. Frequency generators that use hand cylinders or footpads or footplates may work as well as a ray tube instrument as long as sufficient power is used. The only way to increase the power level in a pad type instrument is with the use of an RF (Radio Frequency) carrier. Dr. Rife did not approve of John Crane and John Marsh's pad instrument due to its lack of power and its lack of an RF carrier frequency. Unless you can have a frequency generator with sufficient power you are better off using a ray tube instrument with 50 to 250-watts of power output. If a person is dealing with a very serious condition they may want to use a ray tube instrument instead of a 1/5th of 1-watt pad type instrument if they have access to one.

In chapter 4, we will discuss the safety of the (RF) radio frequencies Dr. Rife used in his instruments including the RF carrier frequency he used.

## Chapter 4

### Are Dr. Rife's RF frequencies safe to use?

<b>Rife Ray #3 And Rife Ray #4 High Sine Wave RF Frequencies</b>	
Actinomycosis (Streptothrix)	192,000 Hz
Anthrax	139,200 Hz
B. Coli (Rod form)	417,000 Hz
B. Coli (Filterable virus)	770,000 Hz
Bacillus X or BX (Cancer Carcinoma)	1,604,000 Hz
Bacillus Y or BY (Cancer Sarcoma)	1,530,000 Hz
Gonorrhea	233,000 Hz
Spinal Meningitis	427,000 Hz
Staphylococcus Pyogenes Aureus	478,000 Hz
Staphylococcus Pyogenes Albus	549,070 Hz
Streptococcus Pyogenes	720,000 Hz
Syphilis	789,000 Hz
Tetanus	234,000 Hz
Tuberculosis (Rod)	369,000 Hz
Tuberculosis (Virus)	769,000 Hz
Typhoid Fever (Rod)	760,000 Hz
Typhoid Fever (Virus)	1,445,000 Hz

Shown in the chart above are seventeen of Dr. Rife's original high RF or radio frequencies which he used on the various microorganisms. Today there are some people who profess to believe in Dr. Rife and his method of using coordinative resonance but they also claim that RF or Radio frequencies are harmful. They claim that these RF or radio frequencies that Dr. Rife used produce harmful Microwaves. They also claim that it does not matter which method is used, metal hand-cylinders or Dr. Rife's plasma ray tube, both methods produce harmful Microwaves. Even the most basic person who knows very little about this subject using the above chart as a guide, in 10 minutes of searching on the internet, could discover that this information is false.

It is interesting to note that this incorrect information comes from people who sell machines that are not capable of outputting any of [Dr. Rife's original high RF or Radio frequencies](#). It appears that because their frequency generators cannot produce Dr. Rife's frequencies they have decided to make these incorrect statements in order to try and compete with frequency generators that can output Dr. Rife's original frequencies. It is too bad that this type of misleading information is used to promote frequency generators which cannot stand on their own merits.

This kind of misleading information does a great disservice to Dr. Rife and the methods which are used by people who use his frequencies. These methods are:

1. Using low audio frequencies with no RF carrier frequency.
2. Using audio frequencies with a high RF carrier frequency.
3. Using High RF frequencies without the use of an RF carrier frequency.

The frequency generators that these companies build use only "Low Audio Frequencies" without any RF carrier frequency. They use the low audio frequencies which were used in the Rife Ray #5 or Beam Ray clinical Rife Machine and the 1953 AZ-58 instrument. But they ignore and do not recognize the importance of the RF carrier frequency Dr. Rife's machines used. (These "Low Audio Frequencies" will be discussed later).

Below are some statements we have found that are good examples of the incorrect information that Dr. Rife's RF or radio frequencies produce Microwaves. We quote:

**INCORRECT STATEMENTS:** *"Radio Frequencies are dangerous and they are not used for Rifing."*

*"It is our experience that broadcast machines are not appropriate for Rife therapy, as they were intended only to treat the microscope, in the pursuit of proof for the theory of frequency. These "ray" machines use a carrier wave, (AM radio broadcast wave) either producing microwave, or the harmonics of microwave, which can kill human cells, and kills brain cells most readily. These machines may produce some limited effect, but the risks greatly exceed the potential benefits they are capable of. Broadcast machines, also called ray beam, ray tube, plasma devices, and any other device that uses a carrier wave to deliver frequency to the body, should not be permitted at all because they cause memory loss, brain damage, and kills cells in the reproductive organs. It is much the same energy that one would receive being too close to a radio, or TV broadcast tower. Frequencies that even approach microwave, are not healthful for therapeutic purposes. This is the reason why we do not make a broadcast device, and we never will. It is simply much too dangerous. Royal Rife, John Crane, and others who worked with them for years, have all died in a terrible diminished state of mental acuity. Alcoholism, erratic behavior, dementia, and stupidity seem to be common among them."*

Here in these quoted statements we see the misleading and incorrect information that Dr. Rife's RF or radio frequencies produced Microwaves. All the scientific tests that have been done show that Dr. Rife's ray tube absolutely does not produce these harmful rays. In addition to this, some claim that the ray tube Dr. Rife used also produces harmful X-Rays. Not only did Dr. Rife's ray tube NOT output Microwaves it also does NOT output X-Rays either. Though Dr. Rife used reconditioned X-Ray tubes they did NOT produce X-Rays or microwaves. He filled these ray tubes with noble gases such as Helium, Argon and Neon. These noble gases do not produce any harmful Microwaves or X-Rays. Light bulbs, commonly called Neon light bulbs are used every day all over the world and if they produced harmful X-Rays or Microwaves they would not be in use.

As we discuss this incorrect information we will backup all of our statements by documented facts that will prove this thinking is totally false. Below, at the end of this quote is a link to a 1958 document where the ray tube was tested by a laboratory for any harmful rays. We quote the most important part of that document.

**RAY TUBE DOCUMENT:** *"Since this (Frequency Instrument) X-Ray tube contains some gas, a discharge occurs and the electrodes become hot. It must be emphasized however, that energizing the tube under these conditions does not produce any X-Rays. As a physicist I can state that this would have no significant effect upon any body placed nearby. This device is a low powered radio transmitter equipped with a "Ray Tube" which produces no X-Rays. Its construction is typical of radio gear, whose dials merely change audio-modulation frequency of the radio carrier. The instruments construction is*

typical of radio transmitters and is not capable of producing any other known form of radiation." ([Signed: D.C. Kalbfell Ph.D, President, 16 Aug 58. Data for: Calif. State Board of Public Health, Berkeley, California.](#))

In 1972 John Marsh had the same type of test done on the ray tube at the request of the doctors who wanted to use his newer style ray tube instrument model JLMSQ-1A which replace the 1950's AZ-58 model. The company that performed this test was the "AccureX Mobile Inspection Service Radiographic Laboratory." This company also used film to test for X-radiation and we have included photos of this film. All of the tests were performed at "Beach Aircraft Facilities." We quote from that document:

**ACCUREX:** *"Unit was energized for five (5) minutes at 2128 cps and monitored with Gieger Counter and Gamma Survey meter. No X-radiation registered.*

*Film packets were placed in contact with the tube...and in various other points of contact within the console...and in contact with the power supply. The unit was energized for twenty (20) minutes. Film was developed for six (6) minutes at 20 degrees C in new Ansco Liquidol developer and new Ansco Liquifix fixing solution. After wash [washed] film was dried in normal procedures. No darkening of film due to X-radiation was shown. Film was clear.*

*The conclusion is that unit...and its components DO NOT emit detectable X-radiation when checked with standard instrumentation."* ([AccureX Mobile Inspection Service Radiographic Laboratory document.](#) Click here for [Film photos showing no X-Ray radiation](#)).

Both of these tests which were done in 1958 and 1972 conclusively show that Dr. Rife's ray tube and instruments did not produce any X-rays. These test also show that those who have claimed that Dr. Rife's ray tube put out harmful rays do not know what they are talking about. All of the doctors including Dr. Robert P. Stafford insisted that the ray tube be tested for harmful rays before they would use Dr. Rife's ray tube instrument on patients in clinical tests. This is the reason that Dr. Rife and his two 1950's business partners, John Crane and John Marsh, had these laboratory tests done on Dr. Rife's ray tube instrument. Safety was their number one concern. Dr. Rife had these same tests done in the 1920's and 1930's. Below is a link to a page on this site called "Doctors who used the Rife machine on their patients." On this page you will find links to many doctors who used Dr. Rife's ray tube instrument on their patients without any harmful effects.

[Doctors who used the Rife Machine on their patients.](#)

None of these doctors on the above page ever died in a diminished state of stupidity as claimed. Dr. Rife made these two statements about the safety of his ray tube instrument. We quote:

**RIFE:** *"I stood in front of that thing for thirty years finding these different frequencies that devitalize these different bacteria. And that thing [RF ray tube] was shooting on me right here [his chest], but it is absolutely harmless to normal tissue and each individual bacteria requiring a different frequency to devitalize."* ([John Marsh Rife CD's](#)).

[To listen to Dr. Rife's actual voice making this statement from the Rife CD's click here.](#)

**RIFE:** *"I have operated the frequency instrument since 1921. I have watched it advance in style and performance with the advancement of electronics. In the many years I have used this equipment in my research, I have never suffered an injury or any ill effects whatsoever. I found it reliable in performance and efficient in results."* ([Letter from Dr. Rife to Dr. Justin Stein, July 2, 1956](#)).

From the above two statements we can see that Dr. Rife knew that his ray tube instrument was safe to use. Dr. Rife lived to be 83. James B. Couche lived to be 87 and Dr. Robert P. Stafford lived to be 88 years old. All of these men lived to be very old and there certainly was no sign of dementia, brain damage, memory loss or stupidity with any of them. Why anyone would make these statements makes no sense unless they are trying to convince people that their limited frequency equipment, which cannot output any of Dr. Rife's original frequencies, is a "Rife Machine."

Because all of Dr. Rife's original frequencies, known as M.O.R's (Mortal Oscillatory Rates) were RF or Radio frequencies which ranged from 139,200 Hertz to 1,607,450 Hertz it was impossible to not use RF or radio frequency if you wanted to use them. Dr. Rife's machine used a ray tube with the option of running a single frequency or multiple frequencies. It also had the ability to use an RF carrier frequency. Dr. Rife's original frequencies were all in the A.M. radio band as pointed out by this company in their quote. But contrary to their incorrect information A.M. radio stations do not operate in the Microwave band. This is not speculation on our part; it is absolute scientific fact and can be easily proven. A.M. radio stations frequency bands have been safely used for almost 100 years. The A.M. radio station frequency range is from about 540,000 Hertz or cycles per-second to 1,710,000 Hertz or cycles per-second. You can read about this frequency range at the three links below.

[http://en.wikipedia.org/wiki/AM\\_broadcasting](http://en.wikipedia.org/wiki/AM_broadcasting)

<http://electronics.howstuffworks.com/radio-spectrum1.htm>

<http://hyperphysics.phy-astr.gsu.edu/hbase/audio/radio.html>

FM Radio stations do not output Microwaves either. F.M. radio stations generally operate between 87.5 million Hertz to 108 million Hertz (87.5 to 108 MHz or Megahertz). You can also read about this frequency range at the next three links below.

[http://en.wikipedia.org/wiki/FM\\_broadcasting](http://en.wikipedia.org/wiki/FM_broadcasting)

<http://hyperphysics.phy-astr.gsu.edu/hbase/audio/radio.html>

<http://www.cybercollege.com/frtv/frtv017.htm>

If you read the above pages then you know that both the A.M. and F.M. band of frequencies are not in the microwave range.

Now that we have shown beyond question that Dr. Rife's frequency instrument did not output X-Rays or Microwaves from his ray tube we will discuss a few more facts. In 1936 Dr. Rife's engineer, Philip Hoyland, took Dr. Rife's original frequencies and multiplied them up in harmonic steps into the "Short Wave band." This frequency band ranges from 2.3 million Hertz to 26.1 million Hertz (2.3 MHz to 26.1 MHz or Megahertz). The 3 MHz or 3 million Hertz range was specifically used in the instruments that were sold to the medical doctors who used Dr. Rife's machines. You can read about Dr. Rife's frequencies at the link below.

[Dr. Rife's True Original Frequencies](#)

Now we will again go to Wikipedia and other sources and there we will find the frequency range of the Microwave band. The lowest microwave frequency band starts at the 300 million Hertz range and it is generally considered to be from 1 Gigahertz to 30 gigahertz and can go as high as 40 gigahertz. Here is their quote:



**MICROWAVES:** "Microwaves are a form of electromagnetic radiation with wavelengths ranging from as long as one meter to as short as one millimeter, or equivalently, with frequencies between 300 MHz (300 megahertz or 0.3 GHz) and 300 GHz [a GHz or Gigahertz is a 1000 MHz or Megahertz]. This broad definition includes both UHF and EHF (millimeter waves), and various sources use different boundaries. In all cases, microwave includes the entire SHF band (3 to 30 GHz, or 10 to 1 cm) at minimum, with RF engineering often putting the lower boundary at 1 GHz (30 cm), and the upper around 100 GHz (3 mm)."

<http://en.wikipedia.org/wiki/Microwave>

<http://hyperphysics.phy-astr.gsu.edu/hbase/ems2.html>

Since none of Dr. Rife's frequencies were above 20 million Hertz and this range is 280 million Hertz lower than the lowest microwave range it is impossible for Dr. Rife's frequencies which he used for the various microorganisms to be in the Microwave band. If his frequencies are NOT in the Microwave band then his ray tube could not have output Microwave frequencies.

Below and on the next page are three charts that show the various frequency spectrums. You will notice that the microwave spectrum is above the A.M. radio spectrum which all of Dr. Rife's frequencies are in. You will notice that the X-Ray spectrum is even higher than the Microwave spectrum.

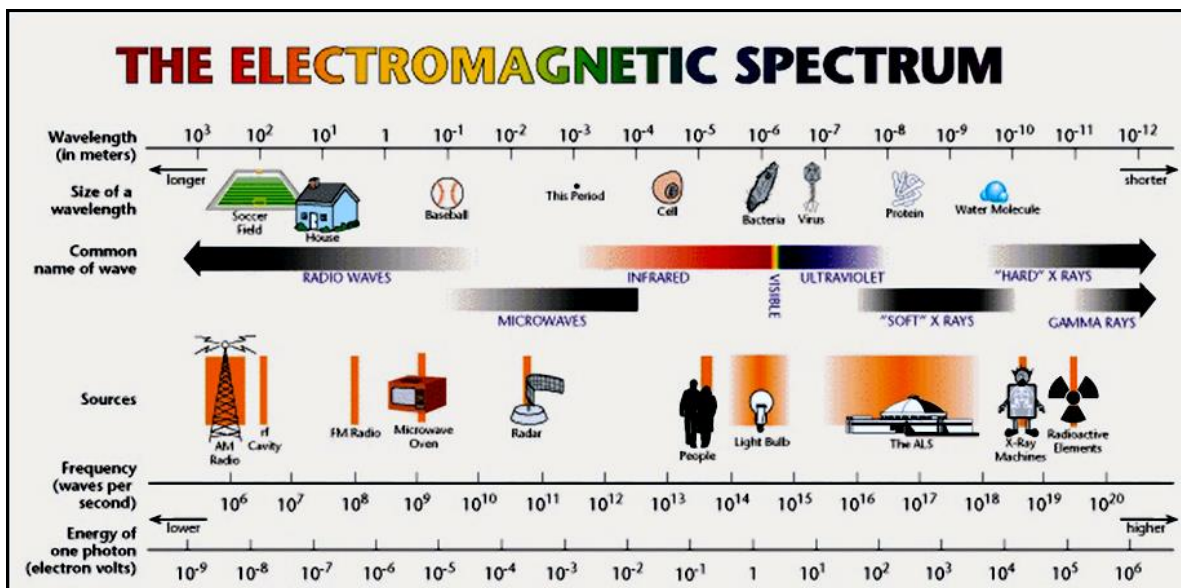
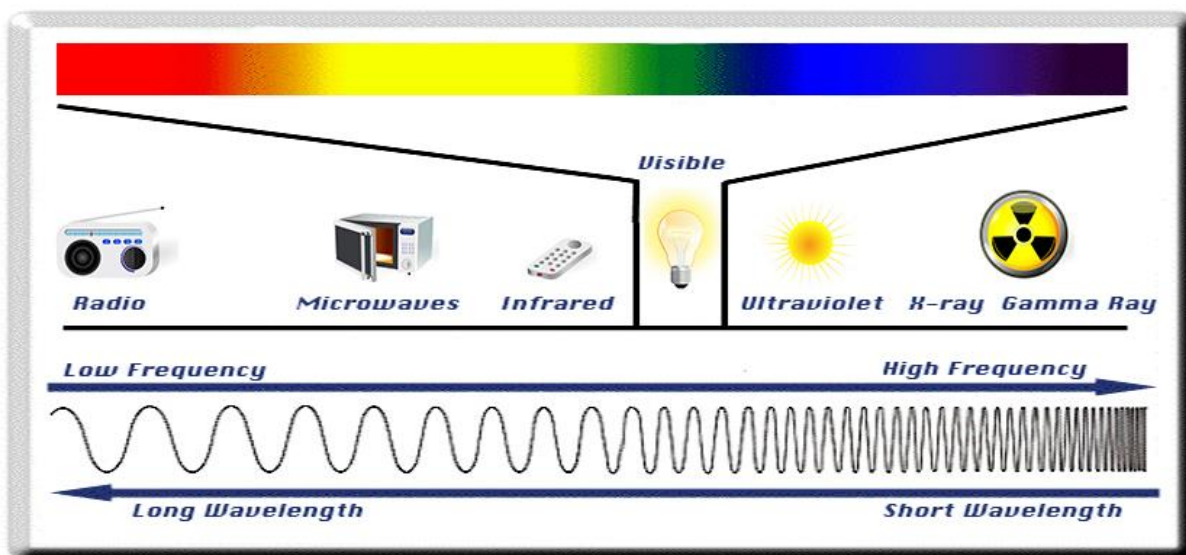


TABLE 1: MICROWAVE LETTER BAND DESIGNATIONS		
Band	Frequency range	Applications
L	1 to 2 GHz	Satellite, navigation (GPS, etc.), cellular phones
S	2 to 4 GHz	Satellite, SiriusXM radio, unlicensed (Wi-Fi, Bluetooth, etc.), cellular phones
C	4 to 8 GHz	Satellite, microwave relay
X	8 to 12 GHz	Radar
K <sub>u</sub>	12 to 18 GHz	Satellite TV, police radar
K	18 to 26.5 GHz	Microwave backhaul
K <sub>s</sub>	26.5 to 40 GHz	Microwave backhaul
Q	30 to 50 GHz	Microwave backhaul
U	40 to 60 GHz	Experimental, radar
V	50 to 75 GHz	New WLAN, 802.11ad/WiGig
E	60 to 90 GHz	Microwave backhaul
W	75 to 110 GHz	Automotive radar
F	90 to 140 GHz	Experimental, radar
D	110 to 170 GHz	Experimental, radar

In 1958 a letter was sent to the Department of Public Health in California from "Radiation Detection Co." We quote:

**RADIATION DETECTION CO:** *"As requested I have reviewed the information provided by your office on the AZ-58 Freq. Inst. from the view point of possible hazards from ionizing and or radio frequency radiations. Based primarily on the data given in the report of the 3D Testing Labs Inc. Material Engineering Report dated June 18, 1958, it is my opinion that the instrument does not produce hazardous quantities of ionizing and or radio frequency."* ([Letter from Francis R. Holden, PhD President Radiation Detection Co.](#))

All of the reports and letters we have quoted show that Dr. Rife's ray tube output no harmful X-Rays or harmful radio frequency radiation in the form of Microwaves. We could give more proof that Dr. Rife's ray tube did NOT produce any Microwaves or X-Rays but we believe what we have given is sufficient. All of this documented information easily shows that any information from any person that promotes the idea that Dr. Rife's ray tube or his frequencies output Microwaves or X-Rays is false and incorrect. Dr. Rife's ray tube, which used an RF or radio carrier frequency, was and still is as safe to use as a Neon light bulb.

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The idea that high RF frequencies or a carrier wave is un-necessary would eliminate the whole method Dr. Rife used to devitalize microorganisms. Dr. Rife's lab notes show that he only had one frequency in the non-RF audio range. All the rest were high RF frequencies. What most people do not understand is the fact that this single audio frequency was used with an RF carrier frequency. It is hard to understand how these people can put down the RF carrier frequency method Dr. Rife used in the 1930's through the 1950's.

When it comes to Dr. Rife and the method he used in his Rife Machine you cannot "have your cake and eat it too." Dr. Rife's principles were all based on coordinative resonance from RF frequencies. Any method used which does not use RF frequencies cannot be called Dr. Rife's method nor can it truly be called a "Rife Machine." Today, regardless of the method used, people call their instruments "Rife Machines" no matter how they are built. Dr. Rife specifically asked that his name not be put on any instrument, yet this is exactly what people do. There is nothing wrong with people building non RF instruments, but claiming that RF is bad or unsafe just to sell their instruments is where the problem lies. Dr. Rife's Colin B. Kennedy equipment (which will be discussed later in detail) had a frequency range of about 12,000 hertz to about 2,000,000 hertz. With this equipment Dr. Rife found the many frequencies (as shown in the chart at the beginning of this chapter) that would eliminate or devitalize the various organisms he tested.

Anyone who understands anything about frequencies knows that Dr. Rife's frequencies were RF or radio frequencies. It is impossible to build an instrument that could output these frequencies of Dr. Rife's without using RF frequencies. Every one of Dr. Rife's instruments from the Rife Ray #1 to the Rife Ray #5 used RF frequencies. This is a fact of history and it cannot be changed. Yet there are some who are so foolish as to state that RF instruments such as Dr. Rife's instruments are "Dangerous Rife Machines." It is hard to believe that this is being said by some who claim to be selling "Rife Machines." It is obvious that they know very little about Dr. Rife and his methods. All of the frequencies that Dr. Rife used were in the AM radio band of frequencies. If they were dangerous then we would not have any AM radio stations on the air today. AM radio stations have been around for almost 100 years. If these frequencies were dangerous then people would have been falling dead all over the place for the last 100 years. This is how foolish the idea is that Dr. Rife's RF frequencies and instruments were dangerous.

It is clear that people who have written this false information know nothing about Dr. Rife or his equipment. In this report we have no axe to grind other than to point out how foolish some of this false information is which is being written by those who claim to know a great deal about Dr. Rife. There is a lot of nonsense being written by some people in order to try and sell some kind of so called "Rife Machine".

In Dr. Rife's tests, he would have naturally started in the low-frequency range and slowly worked his way higher up in the frequency bands until he found a frequency that would devitalize the organism. All of the frequencies that he found were in the RF range. They went from 139,200 Hertz for Anthrax to 1,607,450 Hertz for the BX cancer virus (This frequency range was taken from the Rife Ray #4 documents). It was only these frequencies that Dr. Rife found that would resonate with the organisms and devitalize them. Since Dr. Rife found that only these RF frequencies would resonate and kill the organism then it is impossible to separate RF from coordinative resonance. It would also be impossible to build an instrument that truly worked on Dr. Rife's principles without the use of Radio Frequencies.

Back in 1989 there was an article published in the "QST" magazine called "Is Amateur Radio Hazardous to our Health?" This article is also used by some to say that RF frequencies are unsafe and should not be used. There is the link to this article. [Is Amateur Radio Hazardous to our Health?](#)

This paper is worth reading. But a few things should also be taken into consideration. If people do not read it carefully they will come away with the idea that all frequencies may be unsafe to use including audio frequencies in the ranges that are being used today by all the so called "Rife Machines." According to this paper any frequency we use, whether RF or audio, may be unsafe. One thing that anyone reading this article will notice is that there are so many variables that may have caused the health problems discussed in this article that it is impossible to know anything for certain. It points out that from information taken from death records that amateur radio operators had a slightly higher death rate from leukemia and prostate cancer. There were other cancers that had a definite disproportional rate but it is pointed out that they believe that these were caused by other factors. We quote:



**QST:** *"Likewise, the overall death rate for all forms of cancer among amateurs was not significantly different from the larger population. However, within this cancer death rate, there was a definite disproportion of deaths due to cancers of "other" lymphatic tissues, such as multiple myeloma and non-Hodgkin's lymphomas. The death rate for all leukemias was only slightly, but not statistically significantly, increased. Among those leukemias, however, one form particularly (acute myelogenous leukemia) was significantly increased. It was concluded that the increased number of only these highly specific forms of blood disorders, and not others, suggests that a biological cause and effect is present. It is not possible to make a direct analysis of any occupational link with these excess deaths.....It was pointed out that workers in these occupations also were exposed to other possible hazards, such as fumes from solder and toxic chemicals such as the polychlorinated biphenyls (PCBS) and asbestos, any of which in themselves might conceivably cause cancer as well."*

From this quote we find that the increase in cancers is mostly believed to be from *"a biological cause and effect"* and not from exposure to RF frequencies. The biological factors appear to be exposure to hazards, such as fumes from solder and toxic chemicals such as PCBs and asbestos. Most amateur radio operators do a lot of soldering and have many electronic projects that they enjoy building. Because of these facts it is impossible to say that Amateur Radio is Hazardous to our Health. Yet, there are those who use these types of written articles to say that Dr. Rife's RF frequencies are unsafe to use, but the evidence just does not prove this thinking. All the doctors who used Dr. Rife's machines on their patients would disagree with this thinking.

We must also state that in this paper they point out that RF carrier frequencies in the 147 MHz to 450 MHz (147,000,000 to 450,000,000 Hertz) range when used with low audio frequencies may be harmful. But this should not concern people because Dr. Rife never used these high carrier frequency ranges in his machines. The RF machines built today do not use RF carrier frequencies higher than 27 MHz and this is far below this 147 to 450 MHz range. Even the AM Radio band of frequencies ranges from 540,000 Hertz to 1,700,000 Hertz range. The FM Radio range is from 87.5 million Hertz to 108 million Hertz. Both of these frequency bands have been safely used for over 75 years. With anything there will be some risk. We do not live in a perfect world but the benefits far outweigh the risks.

In order to show the safety of Dr. Rife's work and frequencies we must point out that Dr. Milbank Johnson, M.D. also used Dr. Rife's machine for many years, conducting many clinics, and found the instrument safe to use. [Dr. James B. Couche, M.D.](#) used the instrument in his private practice for over 22 years on thousands of patients and he said the instrument was safe to use. [Dr. Tully, D.D.S.](#) purchased one of Dr. Couche's instruments and used it for several years on his patients and he said that he found it completely safe to use. [Dr. Robert P. Stafford, M.D.](#) used the frequency instrument for over 5 years and also expressed that he found the instrument completely safe to use. These statements along with Dr. Rife's statement, that we quoted above, show that Dr. Rife found that his RF frequencies in the ranges he used were as safe to use as the frequencies output by any radio station. Radio station frequencies are broadcast through the air day and night passing through our homes without any harm to the human body. There may be some people with RF sensitivity but this does not mean that RF is unsafe to use. This only means that some people are sensitive to RF and should avoid it.

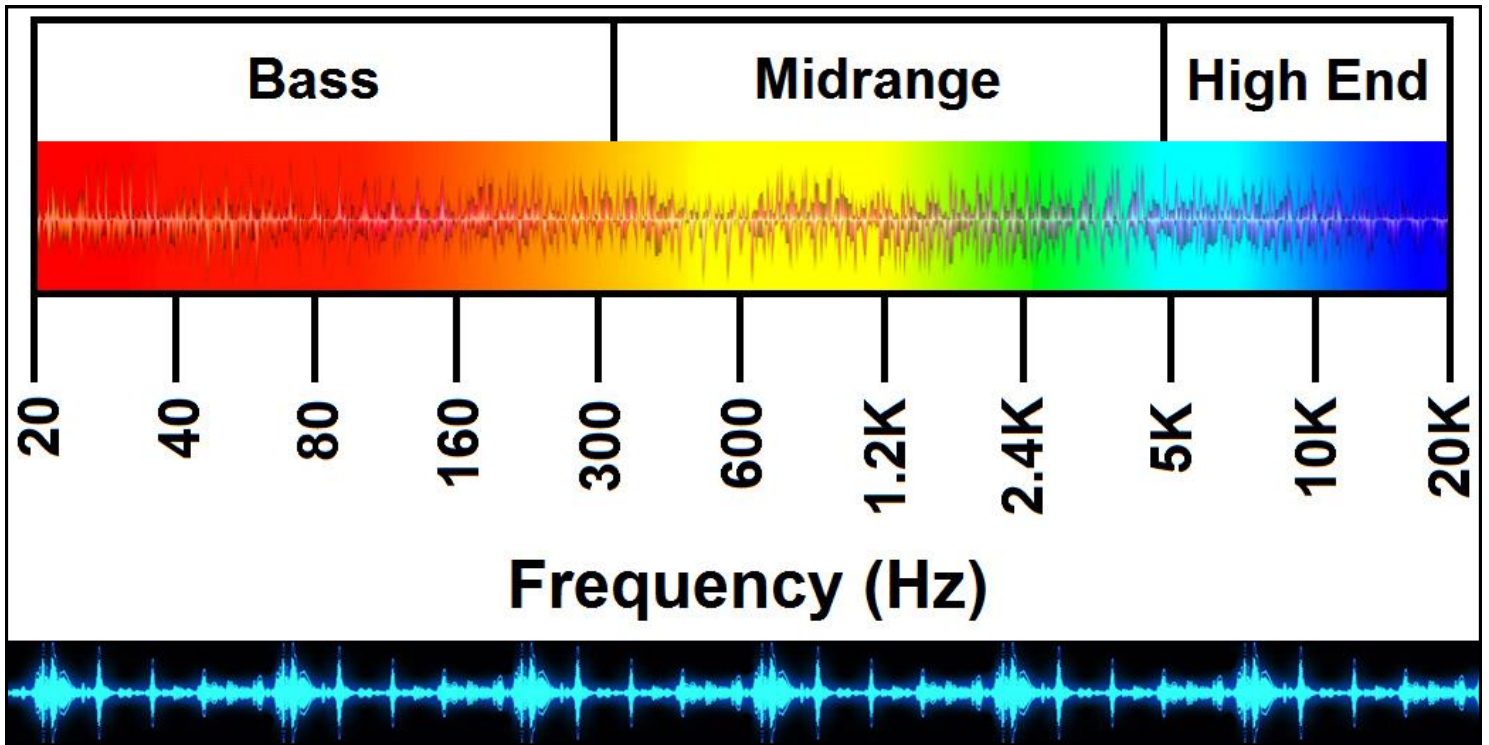
**CHAPTER SUMMARY:** In the strictest sense of the word, an instrument that does not output Dr. Rife's RF frequencies is not a "Rife Machine." Neither can it resonate with the microorganisms that Dr. Rife proved could be devitalized with his RF frequencies. None of Dr. Rife's RF instruments ever put out frequencies in the "Microwave band" or "X-Ray band" of frequencies. Dr. Rife found that his frequencies and the power levels he used in his instruments were safe to use. Non-RF frequency generators appear to be very good instruments and help many people but they do not work on the same methods and principles that Dr. Rife used.

In chapter 5, we will discuss the documents that show that Dr. Rife used audio frequencies with some of his equipment.



## Chapter 5

### Did Dr. Rife use audio frequencies?



In Dr. Rife's 1961 deposition he revealed the fact that he was using some form of audio modulation from the beginning of his work with frequency instruments:

**RIFE:** *"Initially I worked with loose couplers to get an audio oscillation and then with the use of transmitters, I tried to balance the audio and modulate the audio on a carrier wave to transmit the audio energy."* ([Dr. Rife's 1961 Deposition, answers page 5](#)).

Dr. Rife stated that at the beginning of his work, back in the 1920s when loose couplers were used in generating frequencies, he was using audio modulation with an RF or radio frequency carrier. Above is a photo of a loose coupler courtesy of "Henry Rogers, Western Historic Radio Museum" ([www.radioblvd.com](http://www.radioblvd.com)). These loose couplers worked by moving one coil inside the other in order to change the frequencies.

In Dr. Rife's Rife Ray #3 and Rife Ray #4 Rife Machines he used a specific audio circuit that gated or pulsed his frequencies. This circuit modulated a fixed audio frequency with all of his high frequencies which he used on the various organisms. This circuit will be discussed later when we discuss these Rife Machines.

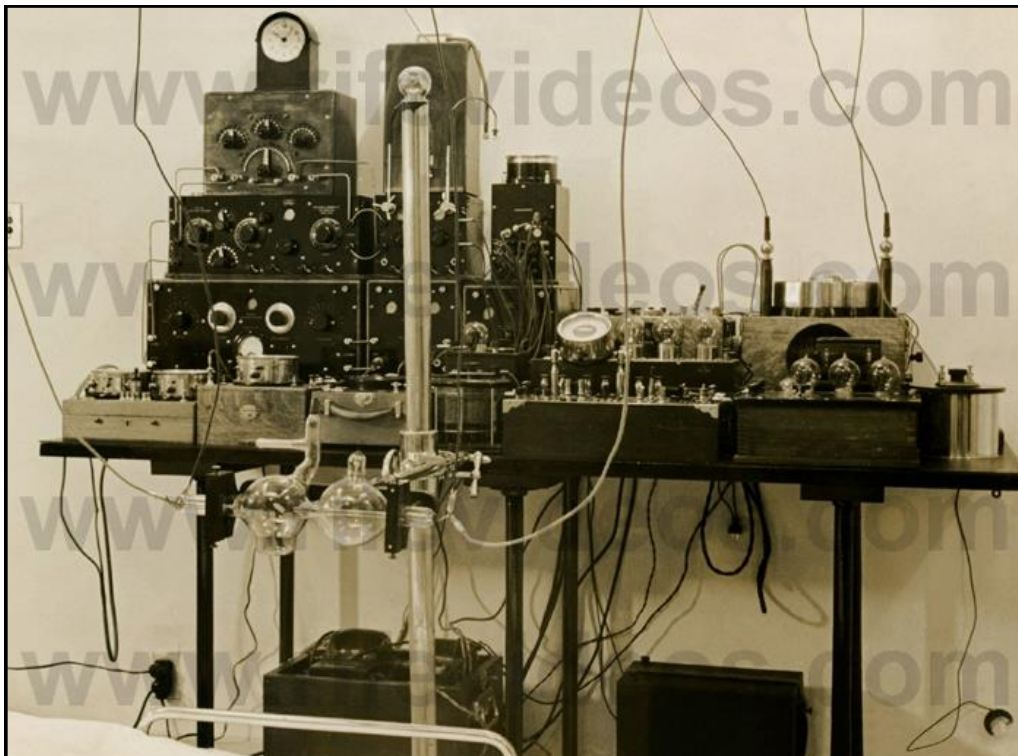
It is apparent that Dr. Rife first tested audio frequencies on organisms in his search for the frequency which would devitalize them. The audio range would be the logical place to start. If he couldn't find a frequency in the audio range, he then moved up into higher frequency ranges until he found a frequency that would devitalize an organism. In Dr. Rife's early lab notes, he listed only two organisms that had an audio frequency M.O.R. Later when Dr. Rife found out that he was reading his frequencies incorrectly, one of those audio frequencies was changed to a much higher RF frequency. There are other statements made by Dr. Rife which show that he tested the audio range. In fact Dr. Rife gave the full range of his frequencies:

**RIFE:** "Some of them are in the visible band, or I mean not only the visible band but, uh, band of frequencies audible to the human ear [audio frequencies are frequencies that you can hear as tones]. Some of them are way beyond either way. They run through a very, very large gamut. Some of them are very, very broad, long. Some of them are...not extremely short. There are none of them what we call our ultra short wave that I have found yet. Well there's many of them...we would, uh, classify in the ultrasonic band because they're not visible [sic] with the human ear. They're way beyond you know. And some of them are even in the broadcast band. Your cancer is very high [1,604,000 Hertz]. You can't hear it, the oscillation. But now you take your T.B. [Tuberculosis Rod 369,000 Hertz & Virus 769,000 Hertz]. Now that's down. A little more you see...if you don't have an absolute coordinative resonance, you have nothing. One tenth of one meter off and you have nothing. Its got to be absolutely correct for that individual organism. It's got to be precise...the virus of cancer has a certain frequency. And it has to be there, otherwise if it's a little one way or the other, no good, no good for nothing. Infra-red will penetrate, yes, but the heat is not the thing because the heat is not the frequency, it's [Infrared] way down in the very low band of frequencies and the laboratory rate of the BX is up into the high band." ([John Marsh Rife CDs - CD 5 track 2, CD 6 track 2, CD 7 track 1 and CD 9 track 1](#)).

In these statements, Dr. Rife clearly explains the broad range of his frequencies. Some were audio and could be heard by the human ear; others were in the ultrasonic range, and some were even in the broadcast band. Cancer he said was very high. He states the frequencies have to be very accurate to work. One-tenth of one meter off and they would not work at all. We will talk about this later. Here are two additional statements that also verify that Dr. Rife's machines could output a modulated audio frequency:

**RIFE:** "You know we had an idea when we had our [1934] Clinic in La Jolla, of course that was battery and motor generator operated that set, you know, and boy it would sure raise the devil with all the radios so we had a couple of cars that was equipped with car radios and we sent them out and we would take the switch of that thing, and had a code you know like an S.O.S., and one of them went up north, and one of them went south from La Jolla. Before we started in we wanted to see how far we were going to disturb things" ([John Marsh Collection, Trip to Ohio Papers, #24](#)).

In the next photo, shown below, is the Rife Ray #3 which was used at the 1934 Clinic in La Jolla.



In order to be able to put out an S.O.S. type signal, he would have had to modulate the audio frequency onto a carrier in order for the car radios to pick up the signal. On the John Marsh Collection of Dr. Rife's audio CD's, Dr. Couche makes an interesting comment about the Rife Ray #3 instrument. He was present at the 1934 clinic sponsored by Dr. Johnson and the University of Southern California. He stated:

**DR. COUCHE:** *"They gave him a treatment of the Rife frequencies which are in the auditory band."* ([John Marsh Rife CD's - CD 3 track 1](#)).

The cancer frequency (Rife Ray #4 1,604,000 Hertz and 1,607,450 for the Rife Ray #5) and tuberculosis (Rife Ray #4 Rod form 369,000 Hertz and 369,433 for the Rife Ray #5)(Rife Ray #4 and Rife Ray #5 Virus form 769,000 Hertz) frequencies used in the 1934 clinic were not audio frequencies. Why would Dr. Couche make this statement? The evidence shows that Dr. Couche was getting the Rife Ray #4 and the Rife Ray #5 methods of generating the frequencies mixed up. The Rife Ray #5 or Beam Ray Clinical Rife Machine which Dr. Couche used for over 22 years used audio frequencies to create the proper sideband spacing to hit the high harmonic RF M.O.R. frequency (Mortal Oscillatory Rate or the frequency that will kill or devitalize an organism). Dr. Couche purchased two of these clinical Rife Machines and used them until 1952 when he retired. We will cover this instrument later in this paper. All the evidence that we have acquired from the quotes show that the Rife Machines from 1934 and earlier could output audio frequencies above 12,000 Hertz and that Dr. Rife tested audio frequencies right from the beginning of his work in 1920.

Although we have been able to prove that Dr. Rife tested the audio range of frequencies, as any good scientist would have done, it should be pointed out that by 1935 when the Rife Ray #4 Rife Machine was built, he no longer felt that he needed to test audio frequencies any longer. This is indicated by the fact that no variable audio oscillator was included in this new Rife Ray #4 frequency instrument. The Rife Ray #4 Rife Machine will be discussed later in this article.

In 1936 Dr. Rife's engineer, Philip Hoyland, developed a new machine which used audio frequencies to create Dr. Rife's high RF frequencies through harmonic sidebands. The audio frequencies were not the frequencies that would devitalize or kill the various microorganisms. These audio frequencies were used to produce the frequencies that would devitalize or eliminate the disease organisms. This method of using harmonic sidebands will be discussed later in this report when we examine the [Rife Ray #5 or Beam Ray Clinical instrument](#).

## Running Multiple Audio Frequencies

Another interesting thing worth pointing out in this chapter is the fact that back in the 1950's Dr. Rife, John Crane, and John Marsh were building a new ray tube instrument that would run multiple audio frequencies simultaneously, instead of only one audio frequency at a time. It appears that they wanted to save the doctor's time in treating their patients. This new ray tube instrument was being built so that it could run 10 audio frequencies simultaneously on an RF carrier frequency. This information comes from a November 1959 document. We quote:

**CRANE:** *"We are building various pieces of test equipment for the new Frequency Instrument and as planned now - it will only have one switch to turn it off and on. Everything else will be accomplished internally - all frequencies will be crystal controlled with 10 frequencies riding the same carrier wave simultaneously. 100% modulation is our goal which is the point of maximum transmission of energy."* ([Letter from John Crane to Dr. Robert P. Stafford dated Nov 14 1959.](#))

Though running multiple RF (Radio Frequencies) was not a new concept in the 1950's the running of multiple audio frequencies was. Dr. Rife had been running multiple RF frequencies with a fixed audio frequency used to gate those high RF frequencies. He did this in his Rife Ray #1 through Rife Ray #4 machines in the 1920s and 1930s. The Rife Ray #5 or Beam Ray Clinical machine was built in 1936 and it was built with the first variable audio oscillator. Now in the 1950's, this was the first time that a machine was being built that would run 10 audio frequencies simultaneously. To show that Dr. Rife had already been running multiple RF frequencies simultaneously we will read the document "Development of the Rife Ray" and it will show that Dr. Rife had been running multiple RF frequencies on microorganisms in his lab work:

**DEVELOPMENT OF THE RIFE RAY:** *"In 1935 in entirely new application of the old principle was incorporated in an instrument built under the direction of Commander Rife by Philip Hoyland of Pasadena California. The new instrument was light socket powered and had an output of 500 Watts. Designated #4. [Rife Ray #4]. Furthermore it was equipped to deliver two distinct frequencies simultaneously and both variable. This apparatus proved to be more efficient with decidedly fewer factors of error in the laboratory tests using 75 pounds of horse meat."* ([Development of the Rife Ray and use in devitalizing pathogenic micro-organisms](#)).

This document clearly shows that Dr. Rife had been running multiple RF frequencies simultaneously. On the John Marsh, Rife audio CD's Dr. Rife discussed the fact that the tuberculosis organism had both a rod form and a virus form and that they would run both of these frequencies simultaneously in order to kill these organisms. We quote:

**RIFE:** *"We found the frequency of the virus, we found the frequency of the rod, which we had for years of course. But if we use the two of them simultaneously over the same carrier wave, the patient gets well and the Guinea pig gets well, but if you use one or either individually you either kill the patient or you don't do nothing."* ([Marsh collection, Rife audio CD's](#)).

These documents show that multiple RF and audio frequencies were being run in different machines that Dr. Rife built. Some believe that running more than one frequency at a time is not a viable concept. But if it was not a viable concept or method then Dr. Rife would have never been able to devitalize any of the microorganisms using it as he stated in the above quote. The fact that Dr. Rife said it worked when he tested it should answer any question about it being a viable method. When the 1936 Rife Ray #5 or Beam Ray Clinical machine was built it could produce up to 100 high RF frequencies simultaneously. Dr. Rife's engineer, Philip Hoyland, use this new design in order to hide Dr. Rife's frequencies simultaneously. This method and machine are discussed in Chapter 9.

**CHAPTER SUMMARY:** In the 1950's the concept of running multiple audio frequencies was developed. Dr. Rife tested and use audio frequencies in his instruments. Primarily the audio frequency was modulated onto the high RF frequency to create a pulse or gate in the higher RF or radio frequencies he was using to devitalize the various microorganisms. When his engineer, Philip Hoyland, developed the new Rife Ray #5 or Beam Ray Clinical instrument the audio frequencies were used to produce Dr. Rife's High RF frequencies through harmonic sidebands.

In chapter 6, we will discuss Dr. Rife's first frequency instrument called the Rife Ray #1 and how he was able to devitalize his first microorganism using it.



## Chapter 6

### Dr. Rife's 1920 to 1922 Rife Ray #1 Rife Machine



1. Used a Ray tube.
2. The frequency range was probably about 1 MHz or less using loose couplers: Could modulate audio frequencies.
3. The output to the Ray tube was 8 to 10-watts.

From information taken from many different documented sources, there is finally enough information to know what Dr. Rife did in the early years, from 1920 to about 1934. Dr. Rife designated his machines in numerical order beginning with the Rife Ray #1. Even though we do not have any photos of his Rife Ray #1, we know that Dr. Rife was using loose couplers (photo shown above is a loose coupler) because of this statement:

**RIFE:** *"Initially I worked with loose couplers to get an audio oscillation and then with the use of transmitters, I tried to balance the audio and modulate the audio on a carrier wave to transmit the audio energy."* ([Dr. Rife's 1961 Deposition, question and answer #35](#)).

In a paper that was written in the 1930s, probably by Jack Free, one of Dr. Rife's lab assistants, we get a history of Dr. Rife's machines. This paper starts with the Rife Ray #1.

*"In January 1920 experiments were started at the Rife Research Laboratory by Commander Royal R. Rife U.S.N. Ret. to determine the effect of electrical influences upon pathogenic microorganisms. Tests were made for anode and cathode polarity influences and the effect of infrared, ultraviolet and X-ray. During these experiments the idea was conceived of the possibility of devitalizing the pathogenic micro-organisms by electrical frequencies of varying wavelengths. The initial apparatus [Rife Ray #1] for the tests along this line of experiments was constructed and used in prolonged experiments during 1921 and 1922, with results that warranted the belief that the principles involved contained possibilities."* ([Development of The Rife Ray and use in devitalizing of pathogenic microorganisms](#)).

The tests that were done with the Rife Ray #1 which showed that it was possible to devitalize micro-organisms with frequencies was talked about in a 1938 Evening Tribune newspaper article. Also in this newspaper article, we learn the power output of the Rife Ray #1 and the first organism that he was able to devitalize.

**EVENING TRIBUNE:** *“Rife built a simple frequency generating apparatus of about 8 or 10 watts output. He grew some cultures of bacteria. Then he began the studies whose reported results now promise to revolutionize the entire theory and the whole treatment of the human diseases, other than those of a functional or accidental nature. Machine and cultures ready, the San Diegan anxiously, feverishly began testing his idea. Would those minute killers of men die under the frequency bombardment? It would be a patience-wracking task, for there was no way to measure what wave length or frequencies the organism might have. In the quiet loneliness of the laboratory, Rife simply had to turn and turn and turn the tuning dials of his machine and check after each bombardment the conditions of the disease organisms in his cultures to see if anything had happened to them. He just had to hunt by trial and error a frequency, which might do something to a certain organism. Then, if he found one for that disease, he would have to start all over again on the next kind.*

*The scientist took first a culture of b. coli, the organisms, which always seem to accompany the agency of typhoid fever yet apparently, are harmless themselves. He prepared microscope slides from the culture and saw that his little subjects were alive. Then he turned the ray on them, tuned it to a certain frequency, then took the slide back to the microscope to see if anything had happened. He did this time after time and the b. coli still remained discouragingly healthy. Then one day, Rife recounted, a culture of the organisms which had been bombarded with a certain frequency [417,000 Hertz] appeared different under the microscope. They seemed lifeless! He tried to get them to grow, to reproduce in their laboratory media. He tried that same frequency on culture after culture of b. coli and always the results were the same. The organisms were dead. "It did kill them!" Rife told himself. And probably, cool, conservative scientists though he is, he allowed himself to hope that he, Royal Raymond Rife, had found that 'bullet' which scientist have sought for years, that "magic bullet' which would surely, certainly slay mankind's diseases.” ([Dread Disease Germs Destroyed By Rays, Claim Of S.D. Scientist-Cancer Blow Seen After 18-year Toil by Rife, The Evening Tribune, May 6, 1938](#)).*

These few statements that we have just read give us all that is really known about the Rife Ray #1. The most important development that was accomplished with the Rife Ray #1 was Dr. Rife was able to test and prove that microorganisms could be killed or devitalized using RF frequencies pulsed with an audio frequency.

The photo, shown below, is a picture of a more complex loose coupler setup.



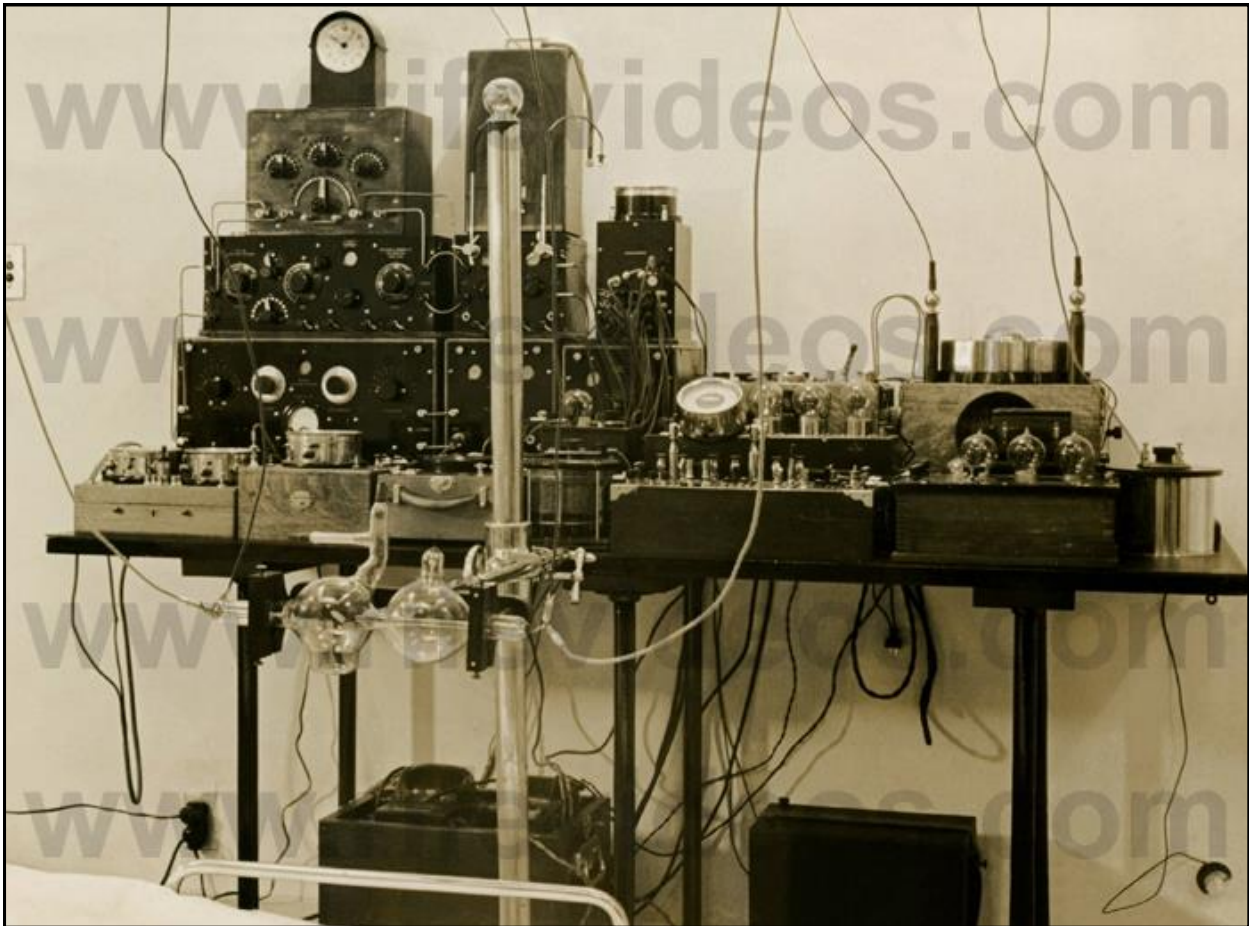
By 1923 Dr. Rife assembled his next Rife Machine called the Rife Ray #2 using off-the-shelf frequency generators. The same equipment that was used with the Rife Ray #2 was also used with the Rife Ray #3. The changes made to the Rife Ray #2 to create the Rife Ray #3 appear to be mostly an increase in the power output of the instrument through the ray tube. Since the full details of the changes are not known and the same equipment that was used with the Rife Ray #2 was used with the Rife Ray #3 we will look at the Rife Ray #3 in the next chapter.

**CHAPTER SUMMARY:** The Rife Ray #1 was a simple frequency generating device built to determine if microorganisms could be devitalized by frequencies. The instrument was built using loose couplers which when moved in and out of the coil would produce different electrical RF frequencies. Dr. Rife modulated an audio frequency on the RF frequency he was using in order to produce a pulsed waveform. With this simple frequency generator, he was able to devitalize his first organism which was B. Coli. Dr. Rife after proving his theory went on to build more powerful equipment which we will look at in succeeding chapters in this report.

In chapter 7, we will discuss Dr. Rife's Rife Ray #3 instrument that was used in the 1934 cancer and tuberculosis clinic which Dr. Milbank Johnson conducted.

## Chapter 7

### 1934 Rife Ray #3 Rife Machine used in the 1934 clinic



1. This was a regenerative instrument that used a ray tube.
2. It consisted of two Kennedy Regenerative Receivers (the model numbers were the 110 and 281). These two receivers made it possible to have a combination of one low frequency oscillator and one high frequency oscillator or two high frequency oscillators.
3. The output was a sine wave that was gated into a damped wave..
4. Power usage was from batteries. Output to the ray tube was 50-watts RF?

This instrument was described in a document believed to have been written by Jack Free one of Dr. Rife's lab assistance. We will quote the portion of that document that pertains to this instrument:

*"In 1923 more appropriate apparatus [Rife Ray #2 when improved became the Rife Ray #3] was assembled and used. The different frequencies were generated by a tube oscillator with many stages of amplification, the final stage being a 50-watt Telefunken tube.*

*This amplified frequency was in turn fed into an output tube, and as the voltage at this point was quite small, it was found necessary to apply external voltage across the anode and the cathode of the output tube [ray tube] to act as a carrier wave for the frequencies that were generated in the apparatus.*

*The output tube was constructed with a double expansion bulb, blown from quartz, using platinum anode and cathode it having a 45° target for directional effect. No heat is generated in output tube-*



*temperature constant. The frequency control of the instrument was exact to a fraction of a wavelength making it possible to coordinate the frequency in each pathogenic micro-organism with its own wavelength of frequency delivered from the instrument. The current supply for the whole apparatus was supplied by batteries and generators.*

*During the next eight years these experiments continued and with the aid of the Rife super microscope and the frequency instruments the coordinating frequencies (termed mortal oscillatory rate MOR) of most of the pathogenic micro-organisms were found and recorded including the frequencies of many of the virus or filter passing forms of these organisms." ([Development of the Rife Ray and use in devitalizing of pathogenic micro-organisms](#)).*

Dr. Rife was asked by Dr. Milbank Johnson M.D. to write a description of his Rife Ray #3 instrument in 1935. Dr. Rife had Jack Free, his lab assistant; include this description in a letter that Jack Free wrote to Dr. Milbank Johnson. Below is Dr. Rife's description.

**RIFE:** *"The basic principle of this devise is the control of a desired frequency. These frequencies vary upon the organisms being treated.*

*The frequency is set which controls the initial oscillator, which in turn is run thru six stages of amplification, the last stage driving a 50-watt output tube.*

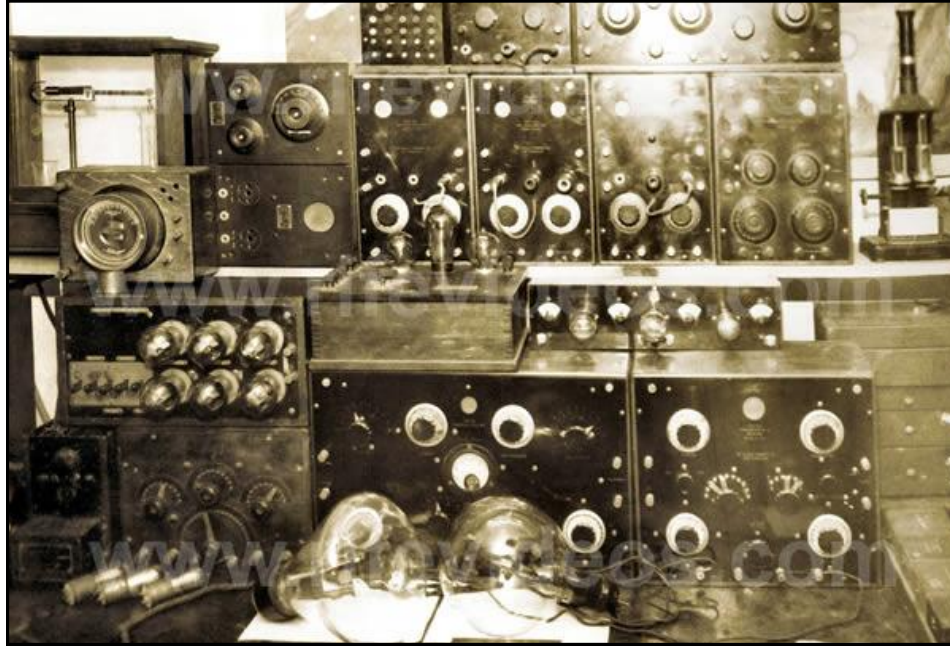
*The frequency with its carrier wave is transmitted into an [output tube](#) [double-bubble ray tube] similar to the standard X-ray tube, but filled with a different inert gas. This tube acts as a directional antenna.*

*The importance in the variable control of these frequencies is that each pathogenic organism being treated is of a different chemical consistency, the consequence being they carry a different molecular vibratory rate. Each one in turn under these conditions requires a [different frequency](#) or vibratory rate to destroy." ([Letter from Jack Free to Dr. Milbank Johnson M.D., December 17, 1935](#)).*

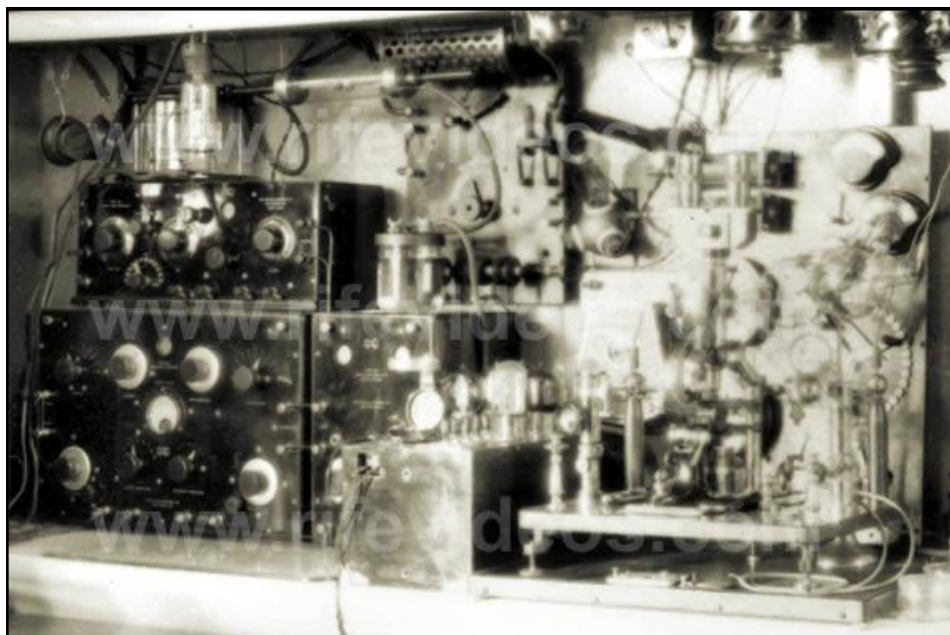
This Rife Machine was used in the 1934 clinic by Dr. Milbank Johnson. See photo of Rife Ray #3 on page 36. If you look at the bottom of that photo of the Rife Ray #3 you can see part of the bed railing and mattress where they treated the patients. If you look at the table you can see that the instrument was not a one-piece instrument but had many components. This Rife Machine has always been considered the best instrument used by Dr. Rife because it produced the results of the 1934 cancer and tuberculosis clinic. Those interested in the work of Dr. Rife have always wanted to know how this instrument worked. They have also wondered what equipment he used. This has been one of the biggest Rife mysteries. There have been all kinds of speculation on how his first instrument worked. What was its waveform? What was the frequency range? Could it generate audio frequencies? Was it super-regenerative (as he wrote on his lab notes), or was it just regenerative? All of these things have remained mysteries for over fifty years. It was generally believed that the 1934 instrument was custom made for Dr. Rife. However, if the equipment had not been custom made, the mystery could be solved. And today, thanks to some great detective work done by Mr. Peters, the mystery, in fact, is now solved. The instruments were not custom made. They were standard off-the-shelf frequency generating equipment that Dr. Rife purchased. The equipment and frequency ranges are now known.

The top photo on the next page is another photo that shows more of Dr. Rife's equipment. It was when Mr. Peters was looking at this photo that he recognized the Kennedy frequency generating equipment. Dr. Rife most likely stacked it all up on a table and took a picture of it after he started to use the newer equipment built for him in 1935. This photo, amongst others, made it possible to figure out the equipment Dr. Rife used. This photo has been provided courtesy of Jason Ringas of Rife Research Group of Canada. Here in this paper you will be able to see the actual equipment along with the selling advertisements of the 1920's that give the specifications of the equipment.

We will now look at each piece of equipment and take an in-depth look at the specifications of each. All pieces of equipment except the ray tubes and possibly the five-stage amplifier were considered off-the-shelf equipment. This means that this was standard frequency generation equipment which could be purchased from companies in the 1920s. Although they are regenerative receivers, they could output whatever frequency Dr. Rife wanted to use when the regenerative circuit was turned up. Dr. Rife used top-of-the-line Kennedy equipment from the Colin B. Kennedy Company, which built some of the most accurate, high-quality equipment that could be purchased in 1923. It was also some of the most expensive equipment to purchase.



We will now take a look at the next photo, shown below. This photo is one of several pictures of Dr. Rife's laboratory instruments. The bottom two pieces of radio equipment were the Kennedy Receiver Model 110 connected to the Kennedy Two-Stage Audio Amplifier Model 525. The other piece of equipment sitting on top of the Kennedy Receiver Model 110 we will look at later. On the next page are two more photos. The first photo is a better photo of this old antique equipment. The second photo is the 1923 advertisement from the Colin B. Kennedy Company which provides the frequency range and features of this regenerative receiver. It also gives the effective frequency range from 175 to 25,000 meters or from 12,000 Hertz to 1,700,000 Hertz.







KENNEDY  
EQUIPMENT

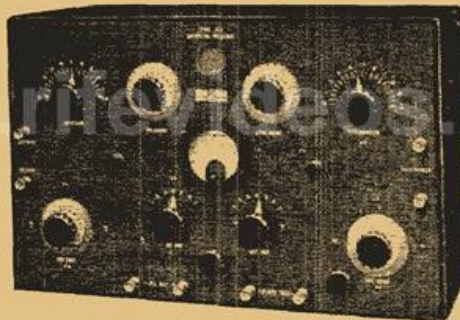
# ANNOUNCING

**THE NEW KENNEDY UNIVERSAL REGENERATIVE  
RECEIVER**

TYPE 110

**EFFECTIVE RANGE: 175 TO 25,000 METERS**

DETECTS  
REGENERATES  
OSCILLATES  
On all wave  
lengths in  
common use.



Licensed  
under  
Armstrong  
U. S.  
Patent  
No. 1,113,149

**Surpassing** even our highest hopes when we undertook its development, this latest addition to the Kennedy line is of interest to **everyone who uses a radio receiving set.**

Our engineering staff spent many months in developing this unit and released it for production only when its performance surpassed every requirement we had set for it. By our long specialization in receiving equipment we have built up a reputation which is so precious that we can afford to put the Kennedy trade-mark on only the highest quality product.

We have spared no effort to make this the best receiver on the market. We honestly believe that it is.

**These are some of its features:**

- Variable inductive coupling between primary and secondary.
- Extremely sharp tuning because of very efficient inductance units.
- Special Kennedy bank-wound moisture-proof inductors.
- Generous overlap between inductance steps.
- Large balanced primary and secondary variable condensers.
- Micrometer adjustment of secondary condenser
- Variable grid condenser with air dielectric, permitting most effective use of all types of available receiving tubes.
- Adjustable feed-back circuit.
- Fine adjustment of plate voltage by means of potentiometer connected between terminals of filament battery.
- Weston ammeter for measuring filament current.
- Bus-bar type insulated wiring.

*Further details in Bulletin 101, mailed on request.*

Ask your dealer for a demonstration. Compare the performance of this receiver with any other you have ever seen. The users of Kennedy Equipment are our best advertisers.

**THE COLIN B. KENNEDY COMPANY**

INCORPORATED

RIALTO BUILDING

SAN FRANCISCO



The Kennedy Model 110 could actually go from 12,000 Hertz to about 1,800,000 Hertz. The Kennedy Company was just being conservative in its advertisement. The next instrument that was on top of the Receiver Model 110 in Dr. Rife's laboratory photo is the Kennedy Short-Wave Regenerative Receiver Model 281. Below is a photo of the Kennedy Receiver Model 281. Below the 281 is a picture of the 1923 Kennedy 281 advertisement.





**KENNEDY  
EQUIPMENT**

Our new improved  
Type 281  
**SHORT-WAVE  
REGENERATIVE  
RECEIVER**

is designed for high efficiency  
on wave lengths of 185 to 620  
meters. The ideal set for relay work. It embodies all the features of correct design  
and superior workmanship that have established the reputation of Kennedy Equipment.

You will be interested in the details of this new short wave set. Ask your dealer  
about it. If he cannot supply you we will send you Bulletin 201 on request.

The high quality of Kennedy apparatus is being appreciated by those who want  
the best results. We again find it necessary to greatly increase our factory capacity  
to meet the demand.

**THE COLIN B. KENNEDY COMPANY**  
INCORPORATED

RIALTO BUILDING SAN FRANCISCO

This Kennedy 281 instrument had an effective range from 185 meters to 620 meters or from 483,000 Hertz to 1,620,000 Hertz. This instrument could actually go to about 1,800,000 Hertz. The Kennedy Company again being conservative on its frequency range.





Now that we have all the frequency generating equipment identified we can now come to some conclusions. All of this Kennedy equipment was a sine wave. The square wave was not used or even generated in this old equipment. The Kennedy Receiver Model 110 had a frequency range from 12,000 to about 1,800,000 Hertz. This shows that Dr. Rife's instruments had the ability to output audio frequencies, a fact that he mentioned in his 1961 deposition. The only audio frequencies he could have used would have been modulated from this equipment. Dr. Rife also mentioned in his 1961 deposition that he balanced the audio on a carrier which would have been a modulated waveform.

What is really important to understand is the fact that none of the Kennedy equipment that Dr. Rife used could output a direct frequency higher than about 1.8 Megahertz (MHz). This fact changes a lot of things with regard to his lab notes dated before 1934. There are two frequencies listed on each lab note as the frequencies used to devitalize that organism. For the BX cancer virus, the lab note gives 11,780,000 Hertz and 17 6/10 meters or 17,033,000 Hertz. Since it was impossible for Dr. Rife to directly output these two frequencies using the Kennedy equipment then these two frequencies must be harmonics of some lower frequencies. In Dr. Rife's lab photos of the Rife Ray #3, there are two Kennedy receivers connected together. Because they were connected together this makes it possible to output two frequencies simultaneously. Dr. Rife's lab notes also say "wavelength of super regeneration of audion tube" (WSR). In super-regeneration, two frequencies are always used. These facts also show that Dr. Rife was mixing two frequencies to produce the frequency that would devitalize an organism.

Back in the 1920s and 1930s, it was difficult to measure an exact frequency. Dr. Rife also found it difficult to return to a specific frequency relying only on the accuracy of the Kennedy dials. Today with our modern technology it is easy to do this. Dr. Rife needed to be able to return to the same frequency every time regardless of the limits of his equipment. So he used a method that would make this accuracy possible.

In order to do this, he used the WSR or "wavelength of super regeneration" to help him re-find the frequency for each organism when he used his Kennedy equipment. The problem is the two specific frequencies listed on each lab note do not match the MOR's or the frequencies that would devitalize the organism as was recorded later. In previous writings of this report, it was believed that Dr. Rife had misread his frequencies. Most believed this is what happened, but, some new information has come to light due to the efforts of Mike Fayer. This new information shows that Dr. Rife did not misread his frequencies as claimed by his engineer Philip Hoyland. The following statements taken from the 1939 Beam Ray Trial is the main reason why it was believed that Dr. Rife misread his frequencies. We quote:

**COMPARET:** *"Now going back to your assumption that Dr. Rife knew the frequencies, had Mr. Hoyland ever told you that Dr. Rife knew them?"*

**EDWARDS:** *"No, he told me that Dr. Rife only thought he had them."*

**COMPARET:** *"What did you think that meant?"*

**EDWARDS:** *"Well, Mr. Hoyland told me about that time [1934 and before], that Dr. Rife measured the frequencies only by the length of the wire and that he did not take other factors into consideration." ([Beam Ray Trial Transcript #1553-1555](#)).*

This quote along with the fact that Dr. Rife's lab note frequencies did not match later readings of his frequencies is what led to the belief that Dr. Rife misread his frequencies. The new information indicates that he read harmonics of his frequencies and within these harmonics was the actual frequency, or harmonic, that would devitalize the microorganism. Also, the harmonic which devitalized the microor-

ganism would mathematically match up with the specific frequency read at a later date by Dr. Rife and Philip Hoyland. What should also be pointed out is that it is apparent that Dr. Rife did not know the actual frequency of each organism. Knowing the actual frequency and knowing a harmonic is two different things. Because Dr. Rife did not know the specific numerical frequency for each organism is probably the reason why Dr. Rife's engineer, Philip Hoyland, told Edwards that Dr. Rife didn't measure his frequencies correctly. We should point out that not knowing the frequencies or misreading the frequencies is different than reading a harmonic. Now let us discuss a little history.

With Dr. Rife's approval, Philip Hoyland was hired by Dr. Milbank Johnson, M.D., and the University of Southern California Special Medical Research Committee in 1935 to build a more up-to-date portable frequency instrument to be used for their research. Dr. Rife's 1934 instrument was cumbersome because it was not just one, but several, pieces of equipment that were difficult to move and use. In order to build the new instrument, Philip Hoyland needed to know what frequencies Dr. Rife was using. Dr. Rife could have just given Philip Hoyland a copy of the frequency ranges that the lab notes covered and he could have built the instrument from that information. But this is not what happened. Philip Hoyland brought his "standard oscillator" into Dr. Rife's laboratory to read his frequencies. Dr. Rife and Philip Hoyland went through the long process of putting the many organisms under the microscope and determining what the specific frequency was for each organism when it was devitalized. Had Dr. Rife known the actual numerical frequencies then this testing wouldn't have been necessary. We also do not know how long this process took and it could have taken months to complete this work. Philip Hoyland could have mathematically calculated all of the harmonic frequencies and sideband frequencies produced from the mixing of two frequencies, one from each Kennedy receiver.

What is apparent from this testing is the fact that Dr. Rife wanted to know exactly what his frequencies were. Philip Hoyland also needed to know what frequencies Dr. Rife was using in order to build the new instrument. While testifying on the stand in the 1939 Beam Ray trial, Philip Hoyland stated this about how he obtained the frequencies: ([1939 Beam Ray Trial Transcript #778](#)).

**HOYLAND:** *"They were taken off the last machine [the Kennedy equipment] that was built by Dr. Rife. I transferred them from one machine to another."*

[At another point during the trial the transcript reads as follows. \(#905-916\):](#)

**COMPARET:** *"In June of 1935 was when you made an agreement with the [transcript missing words] medical research to build a Rife Ray machine, [the Rife Ray #4] you did build it soon after that?"*

**HOYLAND:** *"Yes."*

**COMPARET:** *"You had an agreement with them that all work was to be done under Dr. Rife's direction?"*

**HOYLAND:** *"That's what the contract called for."*

**COMPARET:** *"Did you do this work without getting the frequencies from Dr. Rife?"*

**HOYLAND:** *"I recalibrated the machine according to the bacteria."*

**COMPARET:** *"What specifically did you do that constituted this recalibration?"*

**HOYLAND:** *"I used a standard oscillator against his machine to see what frequencies he was using."*

**COMPARET:** *"He set his machine and you measured his frequencies?"*

**HOYLAND:** “Yes.”

**COMPARET:** “Did you make any memorandum of these particular frequencies?”

**HOYLAND:** “Yes, I gave Dr. Johnson and Dr. Rife a list of them.”

[Later during the trial Dr. Rife was asked where the frequencies came from. \(#1290-1293\):](#)

**JUDGE KELLY:** “When you constructed this Beam Ray machine [from Kennedy equipment] you had a dial representing the frequencies or harmonics?”

**RIFE:** “We had many dials on the original machine [Kennedy Model 110].”

**JUDGE KELLY:** “Is that the machine Mr. Hoyland got the frequencies from?”

**RIFE:** “Yes, he took them off that old machine [Kennedy Model 110].”

From the court testimony given by Dr. Rife and Philip Hoyland, we see the frequencies were read by Philip Hoyland off of the Rife Ray #3 or Kennedy Model 110 and 281 and used in the next instrument which was the Rife Ray #4 (We will be discussing this instrument next).

Because the frequencies which Philip Hoyland read from Dr. Rife’s #3 instrument were different from the earlier lab note frequencies this has caused a lot of confusion. Anyone reading the above trial testimony can see that Philip Hoyland stated that the same frequencies he read from the Rife Ray #3 instrument were transferred from one machine to the next. Because the frequencies that Philip Hoyland read were all lower than 1,800,000 Hertz this shows that Dr. Rife was probably reading harmonics of the actual frequencies and recording these on his lab notes. This is the best explanation or reason why Dr. Rife had two frequencies written on his early lab notes (11,780,000 Hertz and 17,033,000 Hertz) for the BX cancer virus. Dr. Rife and Philip Hoyland’s reading of the frequencies indicate that Dr. Rife did not misread his frequencies; he just read harmonics of the frequencies. What is also interesting is the fact that all of the frequencies that were read in the laboratory testing could have been output by just one of Dr. Rife’s Kennedy receivers. The Kennedy Model 110 had this capability. Dr. Rife and Philip Hoyland, through this testing, establish the fact that only one frequency was needed to devitalize each organism instead of two. From this point on Dr. Rife regularly stated that each organism only required a single frequency to devitalize it. We will cover this information later.

Dr. Rife eventually corrected the lab note frequencies to match the frequencies he and Philip Hoyland read. This was verified in the 1950’s when Dr. Rife’s lab assistant, Henry Siner, read the corrected lab note of the BX cancer virus in a recorded conversation. In regards to those changes, after he read the new frequency, he stated:

**SINER:** “That was a long time ago, but, and remember, I was just copying what he [Dr. Rife] dictated.” [\(John Marsh Rife CD’s - MP3 track 11\).](#)

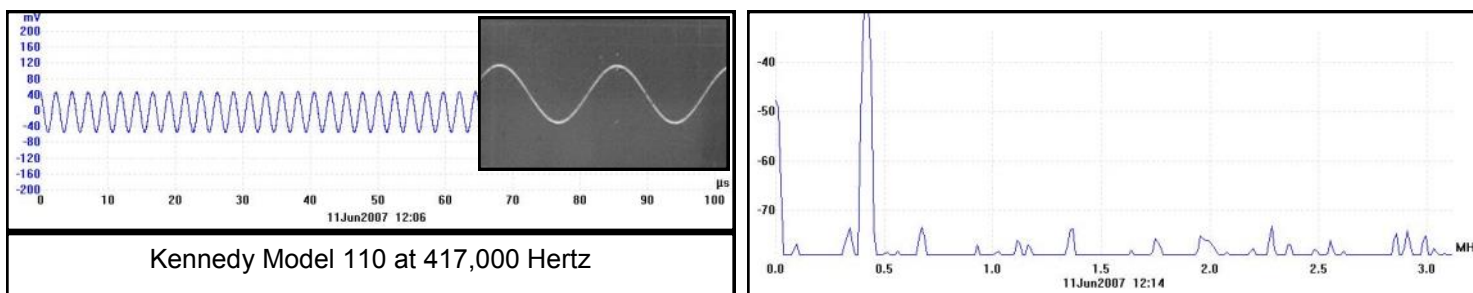
This quote from Henry Siner shows that it was Dr. Rife who made the corrections to the lab note. The frequencies of 11,780,000 Hertz and 17,033,000 Hertz were both changed to 1,604,000 Hertz. With the new Rife Ray #4 machine, two frequencies mixed together were no longer needed or used. The single frequency for each organism, which was determined from the laboratory testing, was the only frequency used to devitalize each organism even though the Rife Ray #4 had the ability to mix two frequencies simultaneously.



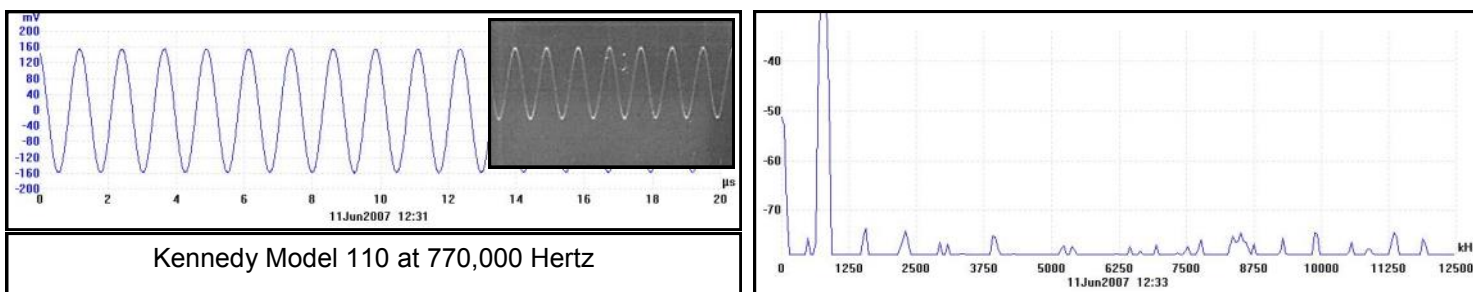
Some wonder if Dr. Rife really understood that he may have been only reading harmonics. The following statement of Dr. Rife's clearly shows he understood harmonics and how easy it was to read a harmonic frequency instead of the fundamental frequency. We quote:

**RIFE:** *"I've talked to you [John Crane] and Verne [Verne Thompson] and other people too that there may be some of the frequencies that we are using that may be harmonics, you know...It's not an impossibility that some of those frequencies may be a harmonic. We may not know the true frequencies of some of them. But it does the business. Maybe if we had the true frequency it would do it better because it has more power than a harmonic."* ([John Marsh Rife CD's - CD 7 track 2](#)).

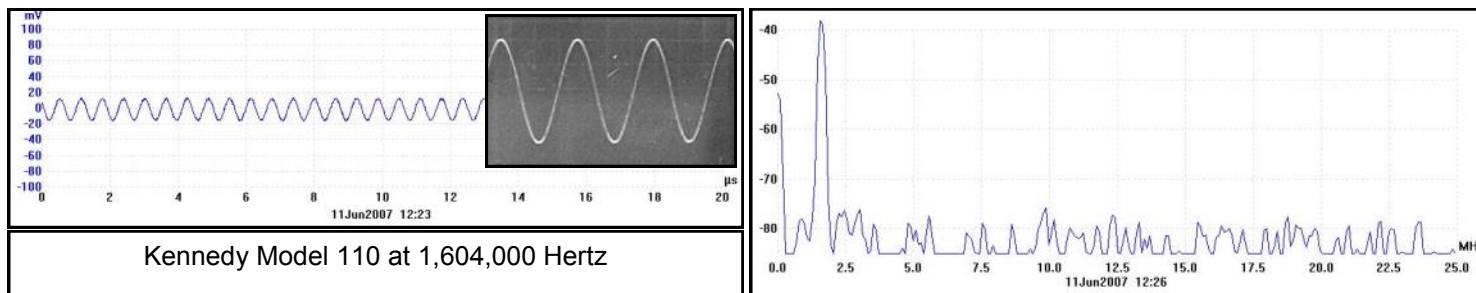
This quote clearly reveals that Dr. Rife understood harmonics and how they worked. Many have believed that Dr. Rife's original Rife Ray #3 machine naturally had harmonics in its waveform. They have also wondered if output a sine wave waveform? Was the waveform distorted? The only way to answer these questions was to find a working Kennedy 110 and put it on a spectrum analyzer. Jason Ringas of the Rife Research Group of Canada and I contacted Henry Rogers the owner of the Western Historic Radio Museum ([www.radioblvd.com](http://www.radioblvd.com)) who owns two Kennedy Model 110's that are still operational. Henry Rogers knew nothing about Dr. Rife but agreed to let me come visit his location to check the readings of the Kennedy Model 110. He also owns a Kennedy 220 and a Kennedy Model 281, both of which are also in working condition. The Kennedy Company built top-of-the-line equipment and we were surprised to find out even after over 80 years, they still worked as well as they did when they were new. Very little attention is ever needed to get these instruments back in working condition because of the quality of their construction. So with a spectrum analyzer in hand, I went to see Henry Rogers and we put the Kennedy 110 on the spectrum analyzer to get the answers to our questions. Below is the reading of the waveform of the Kennedy Model 110 at 417,000 Hertz using a PicoScope 3205 spectrum analyzer. On the left is the waveform which proves that Dr. Rife was using sine wave.



That question was finally answered. The spectrum analyzing of the frequency revealed that there were no harmonics in the waveform. The noise which shows up as little spikes comes from the power supply. These old receivers ran on batteries and when they are hooked up to batteries the noise in the circuit is greatly reduced. The amazing thing about the Kennedy Model 110 sine wave waveform was that it was picture perfect. This amazed us because everyone believed that the equipment that Dr. Rife used would have had a distorted waveform. No one that I have ever talked with believed that this old equipment was capable of producing a nearly-perfect waveform. It was as good as we can do today with our sophisticated modern frequency generating equipment. The fact that it produced no harmonics also amazed us. Below is a reading of the Kennedy Model 110 at 770,000 and at the top of the next page is the reading of the Kennedy Model 110 at 1,604,000 Hertz. At 1,604,000 Hertz the sine wave



was still nearly perfect and it did not produce any harmonics. We checked all frequencies out to 50 Megahertz for harmonics and found none.

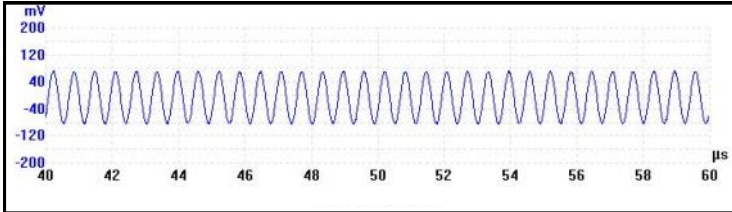


This testing showed that Dr. Rife's Kennedy equipment output a sine wave waveform with no harmonics as long as it outputs a single frequency. But it is known that Dr. Rife had the Kennedy Model 110 and 281 connected together so that he could output two frequencies simultaneously. And this is probably how he produced the harmonics that were listed on his lab notes.

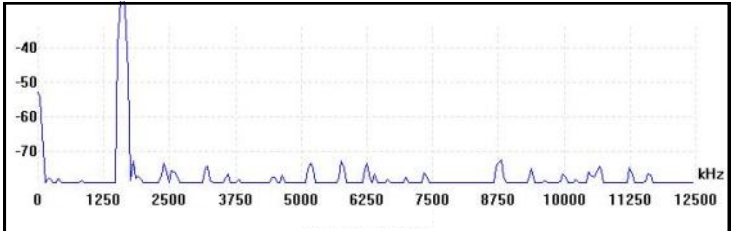
There is another factor that can also create harmonics. We knew that the noble gas he used in his ray tube could double the frequency that went through it. These types of tests have been done with plasma in laboratories in the past. So we decided to make some tests. Because we did not have the ability to connect the Kennedys up to a ray tube at Henry Rogers we decided to test an Icom 718 which we hooked up to a phanotron ray tube. This is the type of ray tube Dr. Rife used and is the only one we tested. We first tested to see what the sine wave looked like coming out of the Icom 718. We wanted to make sure that it did not produce any harmonics, and in fact, our testing showed it did not produce any harmonics. Then we hooked it up to the antenna tuner to see if the tuner distorted the waveform and produced any harmonics. We found it did not distort the waveform or produce harmonics through the antenna tuner except at 1,604,000 Hertz. This is only because the Icom is not supposed to output a frequency below 2,000,000 Hertz. Below this frequency, it will produce two harmonics (see graph on the next page). The other two frequencies we tested were 11,780,000 and 17,033,000 Hertz. These were the frequencies Dr. Rife recorded on his pre-1935 lab notes and neither of these produced harmonics through the antenna tuner. Then we put it through the ray tube. The ray tube didn't just double the frequency - it also produced many harmonics that Dr. Rife could have read. This test showed that not only will mixing two frequencies together produce harmonics but the ray tube can also produce more harmonics. These tests prove that you can put a harmonic-free sine wave through a ray tube and get many more harmonics. The photo below is the Icom 718 and on the next three pages are three graphs that show the readings taken in this testing.



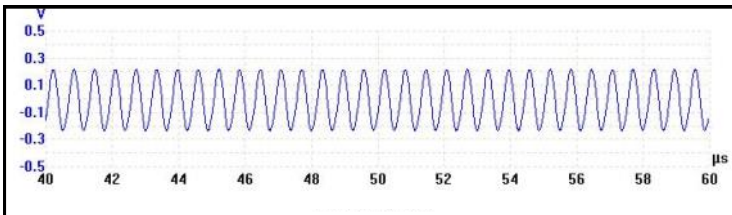
Testing done with PicoScope 3205 spectrum analyzer at 1,604,000 Hertz using Icom 718



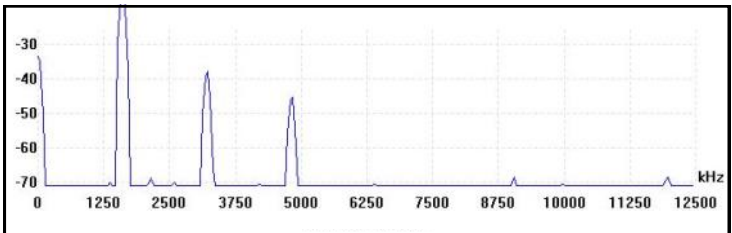
Sine wave out of Icom 718 at 1,604,000 Hertz.



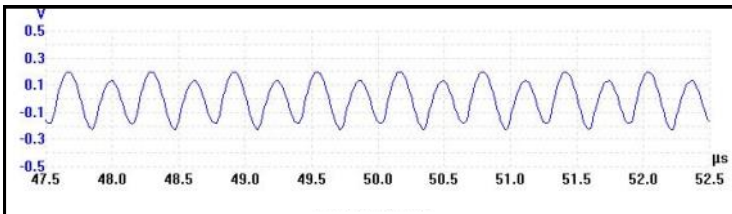
Icom 718 at 1,604,000 Hertz measured with spectrum analyzer showing no harmonics.



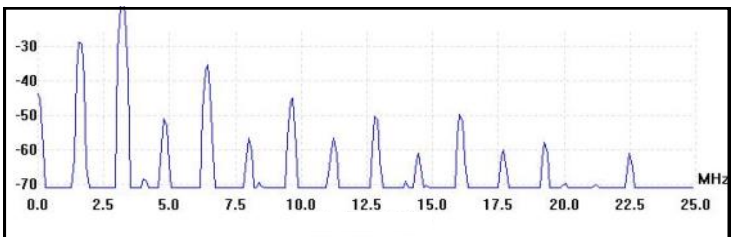
Sine wave out of Icom 718 at 1,604,000 Hertz using the antenna tuner.



Icom 718 and antenna tuner at 1,604,000 Hertz measured with spectrum analyzer showing two harmonics. These two harmonics are only produced because the Icom is not designed to go below 2,000,000 Hertz. If you output 2,000,000 Hertz it produces no harmonics.



Sine wave out of Icom 718 at 1,604,000 Hertz using antenna tuner and ray tube. Sine wave is distorted. In all tests done the sine wave was always distorted when put through a ray tube.

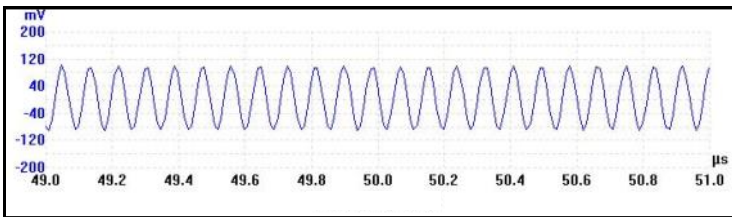


Icom 718 at 1,604,000 Hertz using antenna tuner and ray tube. Measured with spectrum analyzer showing harmonics all the way up to 22,000,000 Hertz. This shows that Dr. Rife's Kennedy Model 110 which only had a top range of 2,000,000 Hertz did produce harmonic frequencies in the 11,000,000 and 17,000,000 Hertz range.

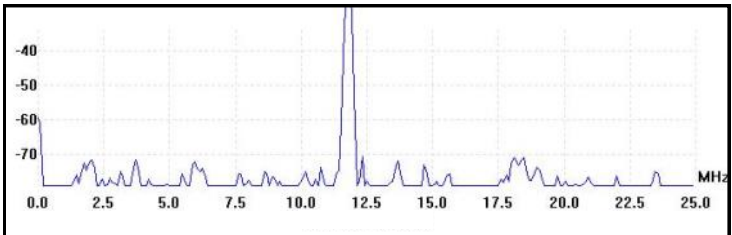


Below are the measurements taken with the PicoScope 3205 spectrum analyzer from the Icom 718 using the antenna tuner and ray tube at 11,780,000 Hertz. This was the first frequency Dr. Rife listed on his pre-1934 lab notes which was later changed to 1,604,000 Hertz.

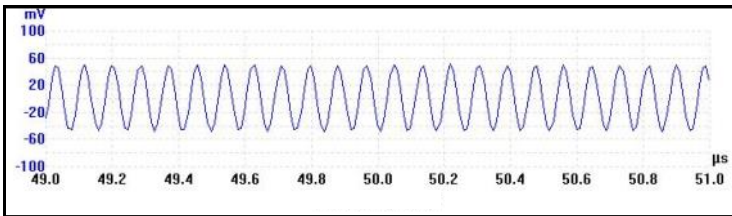
Testing done with PicoScope 3205 spectrum analyzer at 11,780,000 Hertz using Icom 718



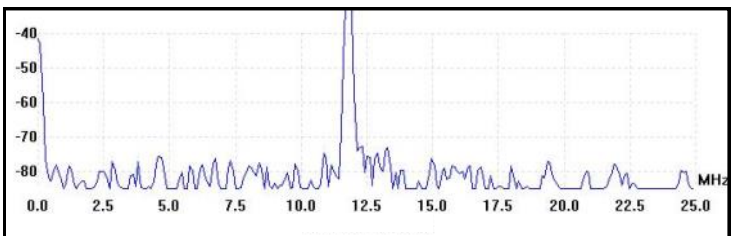
Sine wave out of Icom 718 at 11,780,000 Hertz.



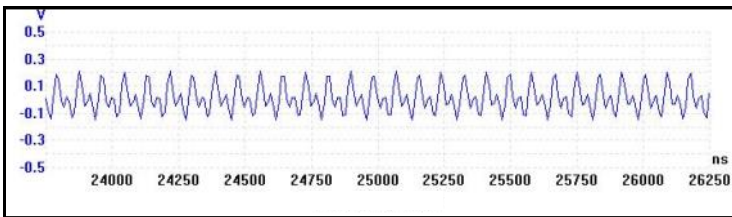
Icom 718 at 11,780,000 Hertz measured with spectrum analyzer showing no harmonics.



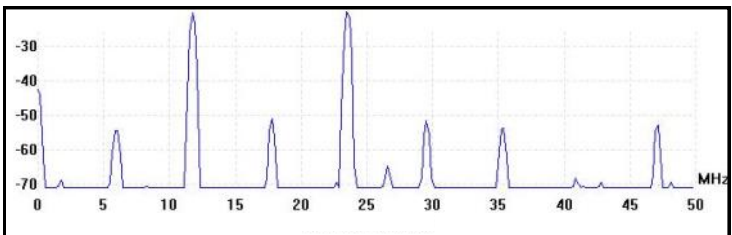
Sine wave out of Icom 718 at 11,780,000 Hertz using the antenna tuner.



Icom 718 and antenna tuner at 11,780,000 Hertz measured with spectrum analyzer showing no harmonics.



Sine wave out of Icom 718 at 11,780,000 Hertz using antenna tuner and ray tube. The sine wave does not look like a sine wave. In all cases the sine wave is distorted to some degree when put through a ray tube.

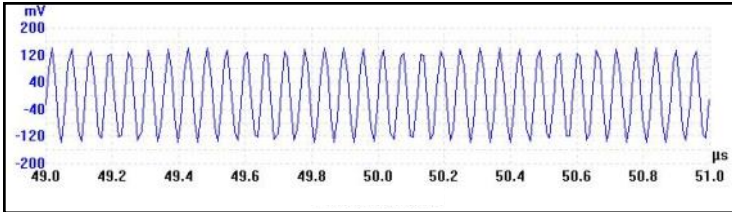


Icom 718 at 11,780,000 Hertz using antenna tuner and ray tube. Measured with spectrum analyzer showing harmonics all the way up to 50 MHz.

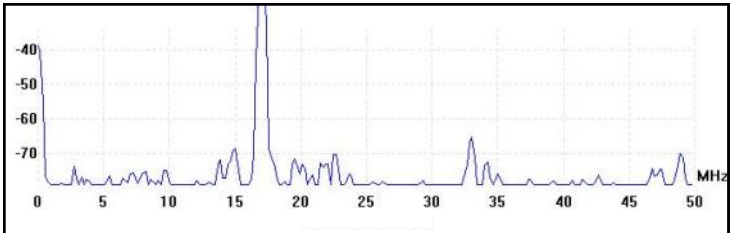


Below are the measurements taken with the PicoScope 3205 spectrum analyzer from the Icom 718 using the antenna tuner and ray tube at 17,033,000 Hertz. This was the second frequency on his pre-1934 lab notes which was recorded in meters. This was later changed to 187 meters which would give us a frequency of about 1,604,000 Hertz. This confirms that Dr. Rife was just reading a harmonic at 17,033,000.

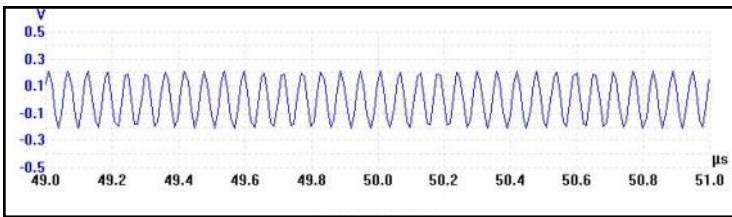
**Testing done with PicoScope 3205 spectrum analyzer at 17,033,000 Hertz using Icom 718**



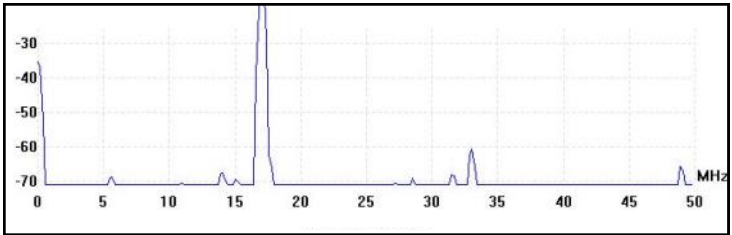
Sine wave out of Icom 718 at 17,033,000 Hertz. Some distortion was in the sine wave.



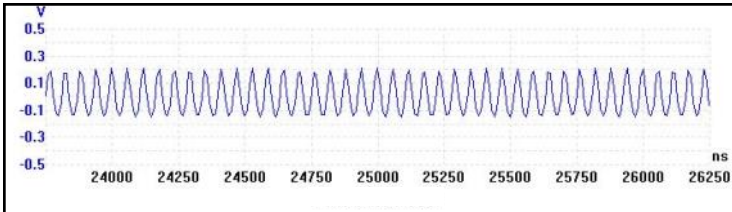
Icom 718 at 17,033,000 Hertz measured to 50 MHz with spectrum analyzer showing no harmonics.



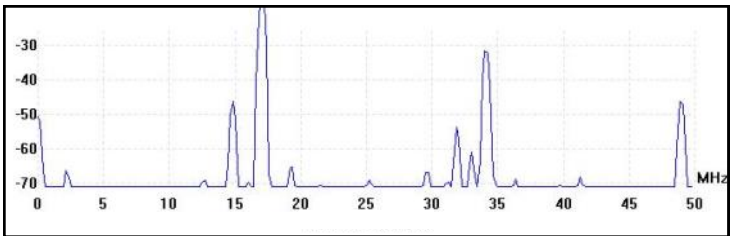
Sine wave out of Icom 718 at 17,033,000 Hertz using the antenna tuner. Same slight distortion noticed.



Icom 718 and antenna tuner at 17,033,000 Hertz measured to 50 MHz with spectrum analyzer showing no harmonics.



Sine wave out of Icom 718 at 17,033,000 Hertz using antenna tuner and ray tube. Sine wave was distorted even more when put through a ray tube.



Icom 718 at 17,033,000 Hertz using antenna tuner and ray tube. Measured with spectrum analyzer showing harmonics all the way up to 50 MHz.

Westinghouse RC Receiver & Amplifier



Western Electric Audio Amplifier 7A



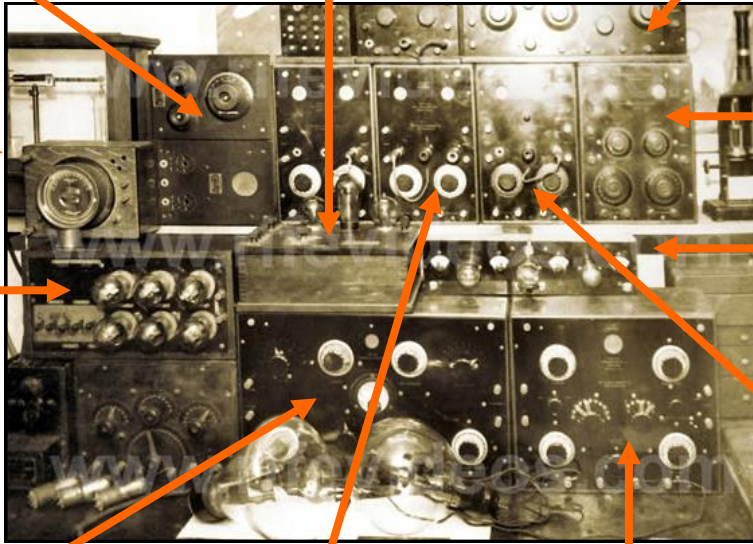
Kennedy Model 281 Receiver



Photo of Rife's equipment that he used in his lab for doing M.O.R. work.

Five stage 50 watt class A cascade RF amplifier

The three photos of Rife's lab on this page are courtesy of the Rife Research Group of Canada.



Kennedy RF Amplifier

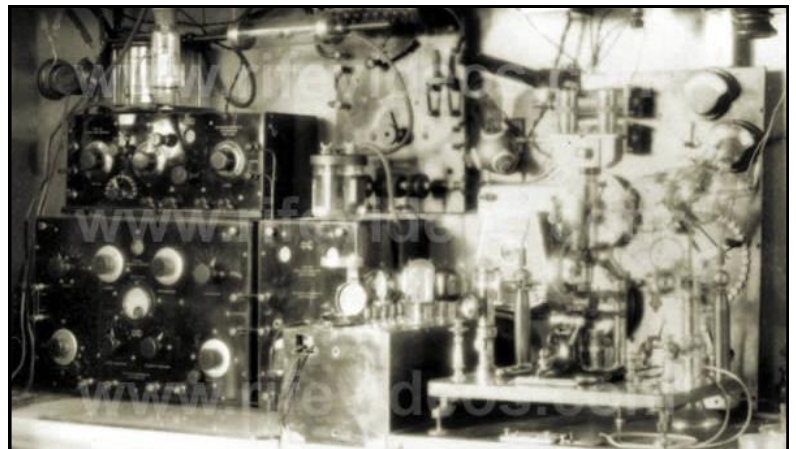
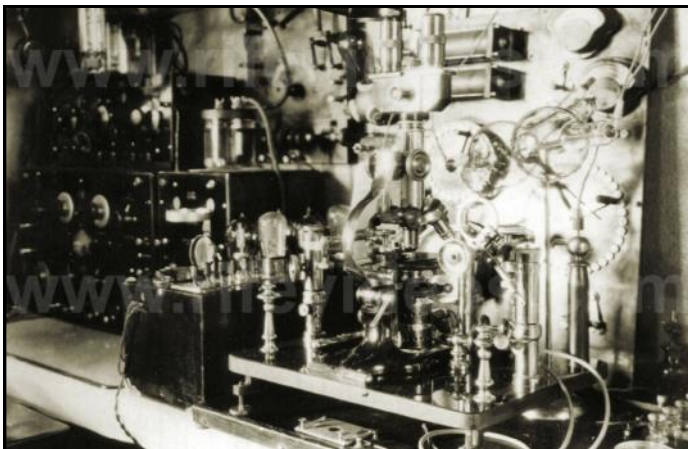
Remler 700 I.F. Amplifier 3.5 MHz



Kennedy Model 110 and 525 Audio Amplifier



Kennedy Model 220 and 525 Audio Amplifier



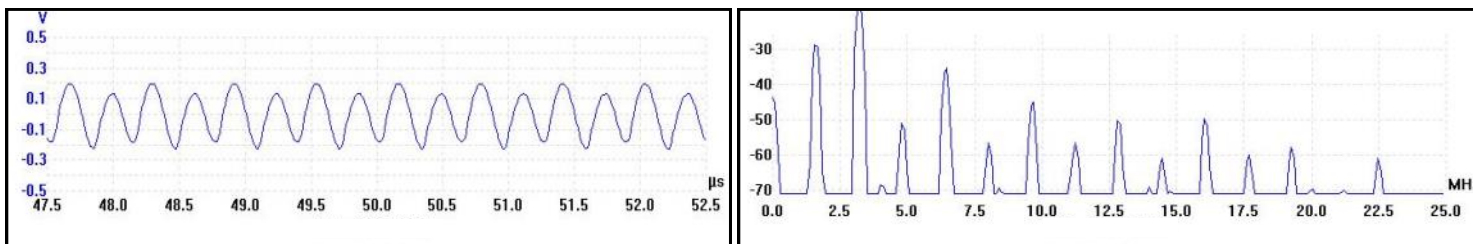
Kennedy Model 110, 281 and 525 Audio Amplifier Set Up In Rife's Lab For Doing M.O.R Work



After having done this spectrum analysis testing and knowing that he could mix two frequencies producing harmonics, we now have a possible explanation of how Dr. Rife might have produced the higher harmonic frequencies found on his lab notes. The decision by Dr. Rife to have Philip Hoyland read the frequencies gave the single frequency that would devitalize each organism. We will again point out that from this time forward Dr. Rife always stated that each organism had its own specific individual frequency that would devitalize it. The reading of the BX cancer virus frequency was recorded as 1,604,000 Hertz instead of 11,780,000 and 17,033,000 Hertz. All of the rest of the frequencies for each organism also changed to frequencies within the capabilities of the Kennedy Model 110 to directly output.

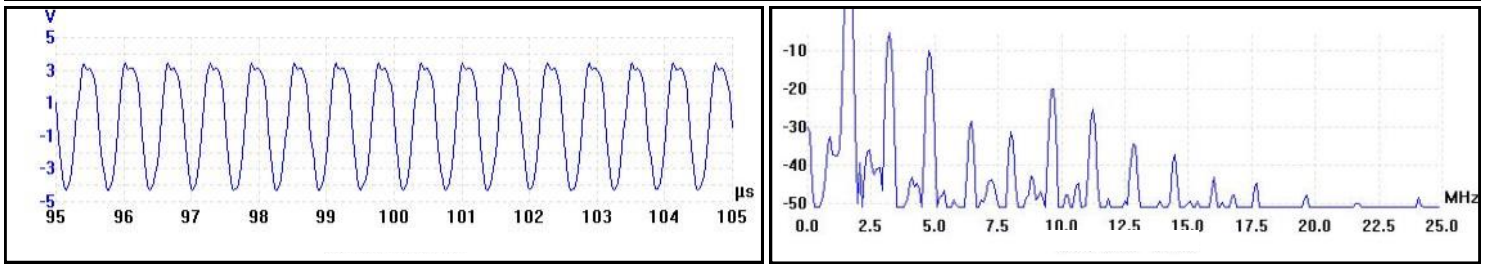
When we read the Kennedy Model 110 the instrument was surprisingly accurate. Dr. Rife could have very easily hit the frequency he wanted within the tolerances he gave. He gave "one-tenth of one meter" as a gage to show how close you had to be to an organism's M.O.R. At 1,604,000 Hertz this would be 858 Hertz. He said if you were off by this amount the frequency wouldn't work. With that in mind, it would be necessary to be within a few hundred Hertz of the BX M.O.R. in order to make sure the frequency was effective. The Kennedy instrument could hit within 200 to 300 Hertz very easily at 1,604,000 Hertz. After changing the dials and then coming back to the same settings, using the method he used, he could easily hit the correct frequency of any organism. It is interesting to note that Dr. Rife and Philip Hoyland read the frequencies they rounded off all but one frequency to the nearest thousandth. The testing of the Kennedy Model 110 shows that the frequency for the BX is most likely somewhere between 1,600,000 and 1,608,000 Hertz because the standard master oscillator that was used was accurate to about 1/4th of 1 percent. All of the frequencies are only close and this should be considered when using them. One fact that helps to point this out is Philip Hoyland read 1,604,000 Hertz for the frequency of the BX. He also gave 187 meters as the frequency. One hundred and eighty-seven meters is 1,603,168 Hertz. This is a difference of 832 Hertz and shows why the frequencies are only close. The frequency calculated by Mike Fayer from the pre-1935 lab note frequencies for the BX of 11,780,000 and 17,033,000 is 1,607,450. This frequency is also within the 1/4 of one percent accuracy of the 1930's master oscillator used by Philip Hoyland to read the frequencies. The reading of these frequencies also showed that Dr. Rife did not misread his frequencies. He just read harmonics and within those harmonics was the frequency that would devitalize the organism.

So now that we know that Dr. Rife's Kennedy Model 110, 220 and 281 only went to 1,800,000 Hertz with harmonics going to about 20,000,000 Hertz (see next graph below). We have to ask this question: What frequency is really the true M.O.R? Is it the 1,604,000 Hertz or a harmonic of it? The actual M.O.R. frequency could have been very easily a harmonic, and Dr. Rife would have never known it. Since the possible mixing of the two frequencies and the ray tube is what may produced these harmonics it may be very important to have all these harmonics. Myth Busters, a cable television program did a test to see if they could break a crystal glass with sound waves. They found when they used only the fundamental frequency without the harmonics they could not break the glass. But when they used the harmonics along with the fundamental frequency then they were able to break the glass. This may or may not be pertinent but it is something that should be considered. With this in mind we



decided to see if there was a way that we could duplicate the harmonics without having to use a ray tube. The next reading with the spectrum analyzer, top of the next page shows that if we distorted the sine wave no more than what the ray tube did we could produce the same harmonics as a ray tube.

## GB-4000 at 1,604,000 Hertz using PicoScope 3205 Spectrum Analyzer



The reading was done at 1,604,000 Hertz taken from an off-the-shelf GB-4000 Function Generator. This test showed it was very easy to duplicate the harmonics produced by a ray tube. We decided to test a triangle wave since the distorted sine wave out of the ray tube resembled it. It also produced the same harmonics as a ray tube. Then we gated an undistorted sine wave and it produced the harmonics. It is apparent that any sine wave frequency from any frequency generator when gated will produce harmonics.



We will now discuss Dr. Rife's tuning of the Kennedy Receiver Model 110 using headphones. In the photo above, on the left, you can see a set of headphones on the Model 525 audio amplifier. Headphones were used to tune the Kennedy Receiver Model 110 and Dr. Rife's earlier instrument that he used before purchasing the Kennedy equipment.

When Dr. Rife set the MOR or frequency that would devitalize the organism he would tune it to that frequency using headphones. Bertrand Comparet, Rife's attorney for the Beam Ray trial of 1939 made this statement when he was interviewed by Dr. John Hubbard:

**COMPARET:** *"Way back in the old days, way, way back, Rife told me that the way he used to tune his instrument, which in those primitive days was, I guess, garbled. He would hook up headphones and turn the thing. He had a very keen musical sense of pitch and so on, and he would tune it in his headphones until he got the right pitch, and that was the frequency."* ([1970's Bertrand Comparet interview #89](#)).

The headphones played an important role in tuning his Rife Ray #1 through Rife Ray #3. The Rife Ray #2 and #3 used the Kennedy Receivers. In the second photo, above on the right, you can see the regeneration dial of the Kennedy Receiver Model 110. When you turned up the regeneration dial then the instrument would output frequencies. Instead of it just being a receiver it also made it an oscillator that would output the frequencies. This dual capability is the reason Dr. Rife used them.

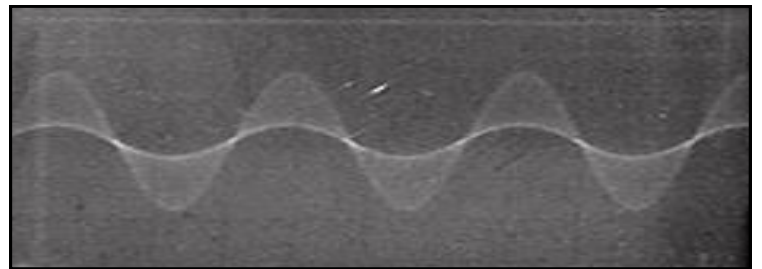
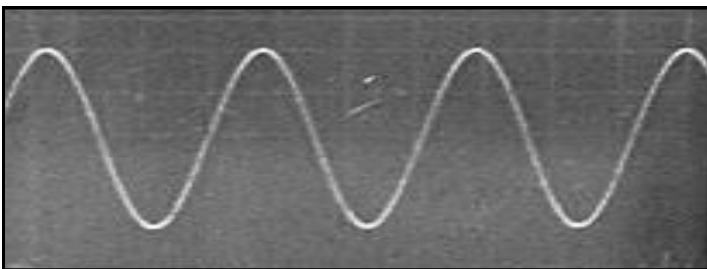


Jimi Harre explained how this may have worked if someone was using it to find a radio station. This same method was probably used by Dr. Rife to return to the MOR frequency for each organism because using the Kennedy numerical numbers, on the dials, was not very accurate. Back in the early days of radio, a person would tune to the radio station using the dial numbers. But when they got close to the radio station they would listen to tune it in perfectly because the dialed number may be a little different each time. This, in essence, is what Dr. Rife was doing. Here is his Mr. Harre's quote:

**HARRE:** *"Using any AM radio, tune in a station at the top end of the dial. Take one of the Kennedys and tune it to the same station. Adjust the regeneration on the Kennedy so it becomes an oscillator and tune it to "zero beat" with the AM radio station. Record the Kennedy dial settings as accurately as possible. Turn off the Kennedy and set its dials to zero. Wait a while and then turn it back on. Return to the same dial settings you previously recorded. Does the Kennedy still zero beat with the AM radio station? If it doesn't, the audio beat frequency will be the tuning error. Rife had difficulty returning to MORs when relying on the accuracy of the Kennedy dials. That is why he developed an alternative method using the WSR [wavelength of super-regeneration]."Real close" simply wasn't good enough for Rife."*

Using this method and listening with his headphones made it possible for Dr. Rife to accurately return to the MOR of each organism. This helped him to overcome the problems that the early 1920's and 1930's equipment had with accurately returning to the same frequency. Many people remember back in the 1960s and 1970's how the car radio stations would seem to drift and they would regularly have to re-adjust the dial of their radio back onto the station they were listening too.

Now we will discuss how the Kennedy equipment could modulate audio frequencies from 12,000 Hertz and up. In the photo below, on the left, is how the waveform looks before modulation. The photo, on the right, shows how the waveform looks when an audio frequency is modulated onto a carrier frequency using the Kennedy equipment. Its modulated waveform looks different than today's modulated waveforms but it still accomplished the goal.



We will now discuss Dr. Rife's multi-stage-amplifiers that he used with the Kennedy equipment. These were most likely class A RC coupling cascade style amplifier. In the photos below we see three different styles of amplifiers. The first photo below, on the left, is of his Rife Ray #3 at the 1934 Clinic. You can see 2 three-stage amplifiers. The one on the right is a Western Electric Amplifier 7A. The second photo, below on the right, is a close up of this same amplifier. Both of them are three-stage



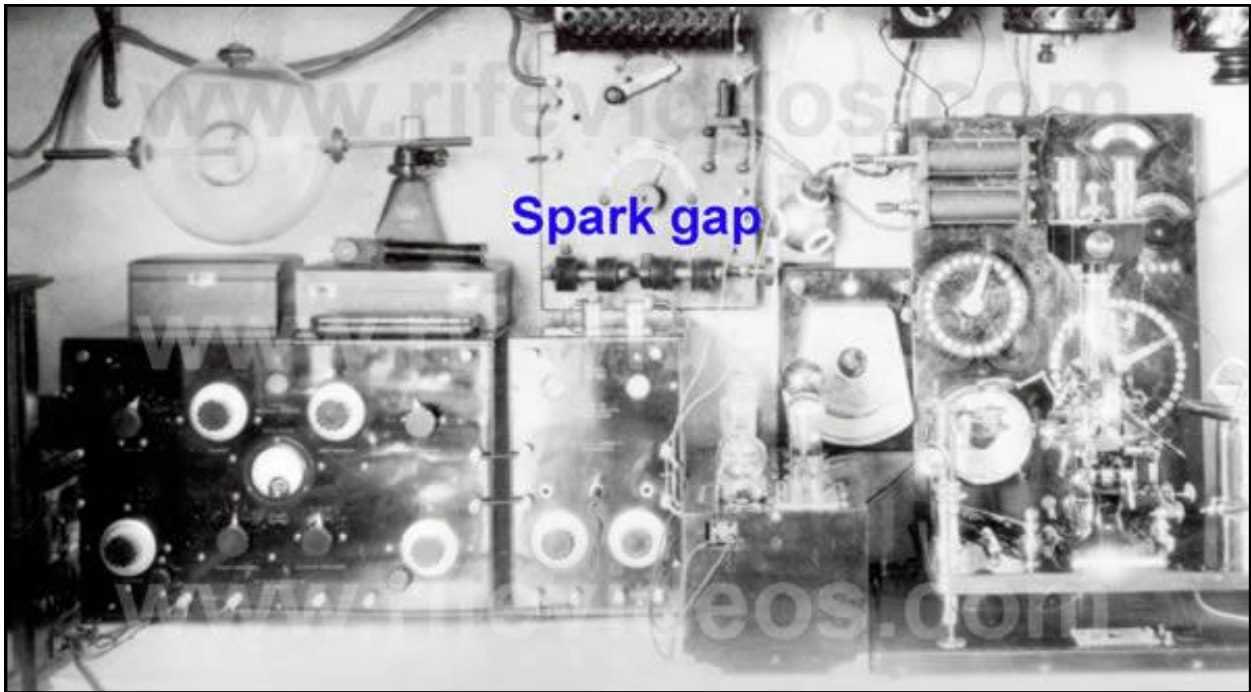
amplifiers. The Kennedy Receiver Model 110 only output about 1.5 to 3 volts. Dr. Rife needed to be able to amplify the signal to a high enough power level to make it effective. In the three lab photos, shown below, we see another style multi-stage-amplifier. In the photo, bottom right, you can see the type of tubes he would have used in the early to mid-1920's. These tubes would have made it so Dr. Rife could amplify the signal from the Kennedy Receiver Model 110 to about 50 watts in multi-stages.

If you look at the three photos of Dr. Rife's multi-stage-amplifier you will see five switches. These five switches (representing five-stages) made it so he could choose different power levels determined by how many stages of amplification he wanted to use. With this five-stage configuration he could have easily produced the 50-watts he said he used. This 50-watts was the power level that was mentioned in the Rife CDs for this instrument.



Ben Cullen, a close friend of Dr. Rife's, mentions on the [Rife CD's](#) that Dr. Rife would light the ray tube with a separate power source. His lab photos show a spark gap transmitter which he probably used, in the 1920s, to light the ray tube. If you look at Dr. Rife's lab photo, shown on the top of the next page, you can see the spark gaps. The spark gaps are right below the "Spark gap" writing we put on the photo.





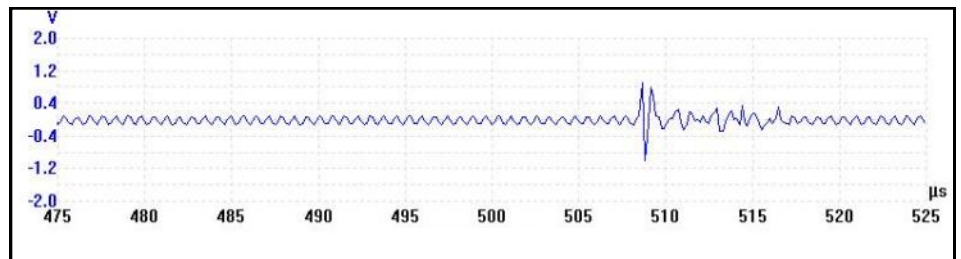
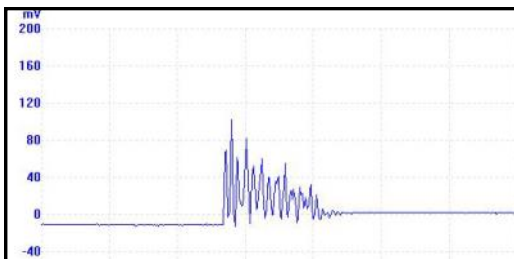
The next photo, shown below, is an up-close photo of the spark gap transmitter diathermy turned on so you can see it working. It is from the 1920s. We purchased it so we could test the lighting of a ray tube with it.



The next photo, shown on the top of the next page, shows the lighting of the ray tube using this spark gap transmitter. It lit the ray tube with ease and could output more power than the ray tube could handle.



This spark gap transmitter would make it so Dr. Rife didn't have any difficulties tuning the ray tube when he changed frequencies from a low frequency of 139,000 Hertz to a higher frequency of 1,604,000 Hertz. The spark gap transmitter had a damped waveform and would have given him a damped wave carrier frequency (see the photo, below left) most likely somewhere around one Mega-hertz. This transmitter we purchased has a frequency of 920 kHz. Dr. Rife would not have modulated frequencies onto this carrier frequency but he would have just mixed the frequencies in the ray tube (see the photo, below right, is of sine & spark mix).



Mixing would have given him the combination of a damped wave and one or two sine wave frequencies, depending on if he used two sine wave frequencies simultaneously. We do not believe that Dr. Rife continued to use a spark gap transmitter because it would have made it impossible for him to read the ray tube harmonic frequencies that his ray tube output. This is because a spark gap outputs broadband noise that makes it impossible to read any harmonic frequencies. Dr. Rife must have only used the spark gap transmitter in his early 1920's work. From the document "Development of the Rife Ray", we learn what he replaced the spark gap transmitter with.

*"And as the voltage at this point was quite small, it was found necessary to apply external voltage across the anode and the cathode of the output tube [ray tube] to act as a carrier wave for the frequencies that were generated in the apparatus."* ([Development of the Rife Ray and use in devitalizing of pathogenic micro-organisms](#)).

It appears that the spark gap transmitter accomplished two important things. One: It lit the ray tub with an external voltage. Two: It produced a high potential voltage spike in the frequencies. Later



Dr. Rife used a DC voltage transformer much like a neon light transformer to light his ray tube. Then he added an audio pulsing circuit to create a high potential voltage spike.

To better understand the reason why a high potential voltage spike or rise is important we need to jump forward in the history of Dr. Rife's instruments to 1936-1937. The Beam Ray Laboratory instrument built by Philip Hoyland was built at this time and it had a fixed audio frequency pulsing circuit. The audio frequency that it produced was modulated with the RF frequencies it output. This audio pulsing circuit would have given Dr. Rife's frequencies a very high potential voltage spike almost identical to the damped wave of the spark gap. John Crane made this statement when he was narrating Dr. Rife's lab film.

**CRANE:** *"Now the spikes that you see on the frequencies are the lethal part that kill and devitalize the virus. They are the resonant peaks of the frequencies which increase the voltage to a very high potential which the cells of the virus wall can not tolerate and they break up into many pieces and are destroyed."* ([Dr. Rife's 1939 Lab Film Narrated by John Crane in the 1970's](#)).

The modulated audio frequency in the 1936-1937 Beam Ray Laboratory instrument was in the shape of a damped wave. With both the Rife Ray #4 and the Beam Ray Laboratory instruments having waveforms in the shape of a damped wave doesn't seem like a coincidence. When Dr. Rife discontinued using the spark gap and replaced it with an external high voltage current to act as a carrier frequency he would have had to develop a new method of creating this high potential voltage rise in his frequencies. It appears, with the help of Lee DeForest, that Dr. Rife must have developed this audio frequency pulsing (gating) circuit for his instruments. It is apparent that this pulsing of the M.O.R frequencies may be the reason why Dr. Rife was able to devitalize the many microorganisms he tested. Though many today have also used Dr. Rife's frequencies without this pulsing or gating with good results.

Dr. Rife described the method he used to find these frequencies on the Rife audio CD's.

**RIFE:** *"Because when I check on that thing and look through that microscope hour after hour day after day, tuning that damn thing [Kennedy 110] to find something that will kill that bug. And every hour or half an hour, whatever is required, I put a new fresh culture under the microscope and keep that on and I find something that folds it up, alright!"* ([John Marsh Rife CD's - CD 7 track 2](#)).

It was a very tedious task to find a frequency that would devitalize an organism. Dr. Rife recorded all his frequencies on lab notes. Even though his lab notes only had harmonics of the correct frequencies on them many people want to know those frequencies anyway. On the next page in a chart are these harmonic lab note frequencies which he recorded prior to 1935. Each lab note had two frequencies. One was listed in cycles per second and the second was listed in meters. For the purpose of making this report easier to understand the meter wavelengths on Dr. Rife's lab notes have been converted to cycles per second or Hertz. You will notice that there are two audio frequencies listed for organisms that are above 12,000 Hertz. They are the only audio frequencies ever listed by Dr. Rife for any organism. One of them was changed to a higher RF frequency when Philip Hoyland read the correct frequencies in 1935 when he built the Rife Ray #4. Most likely the other audio frequency was really a higher RF frequency. Also included in the chart are the frequencies calculated by Mike Fayer from the mixing of the two frequencies listed on the pre-1935 lab notes. These show that Dr. Rife did not misread his frequencies.

**CHAPTER SUMMARY:** The Rife Ray #3 frequency generating equipment which Dr. Rife purchased back in 1923 was made by the Collin B. Kennedy Company. It mainly consisted of the Kennedy model 110 and model 281 to produce its frequencies. This equipment was regenerative but when two frequencies were mixed it became super-regenerative. Its frequency range, when the model 110 and

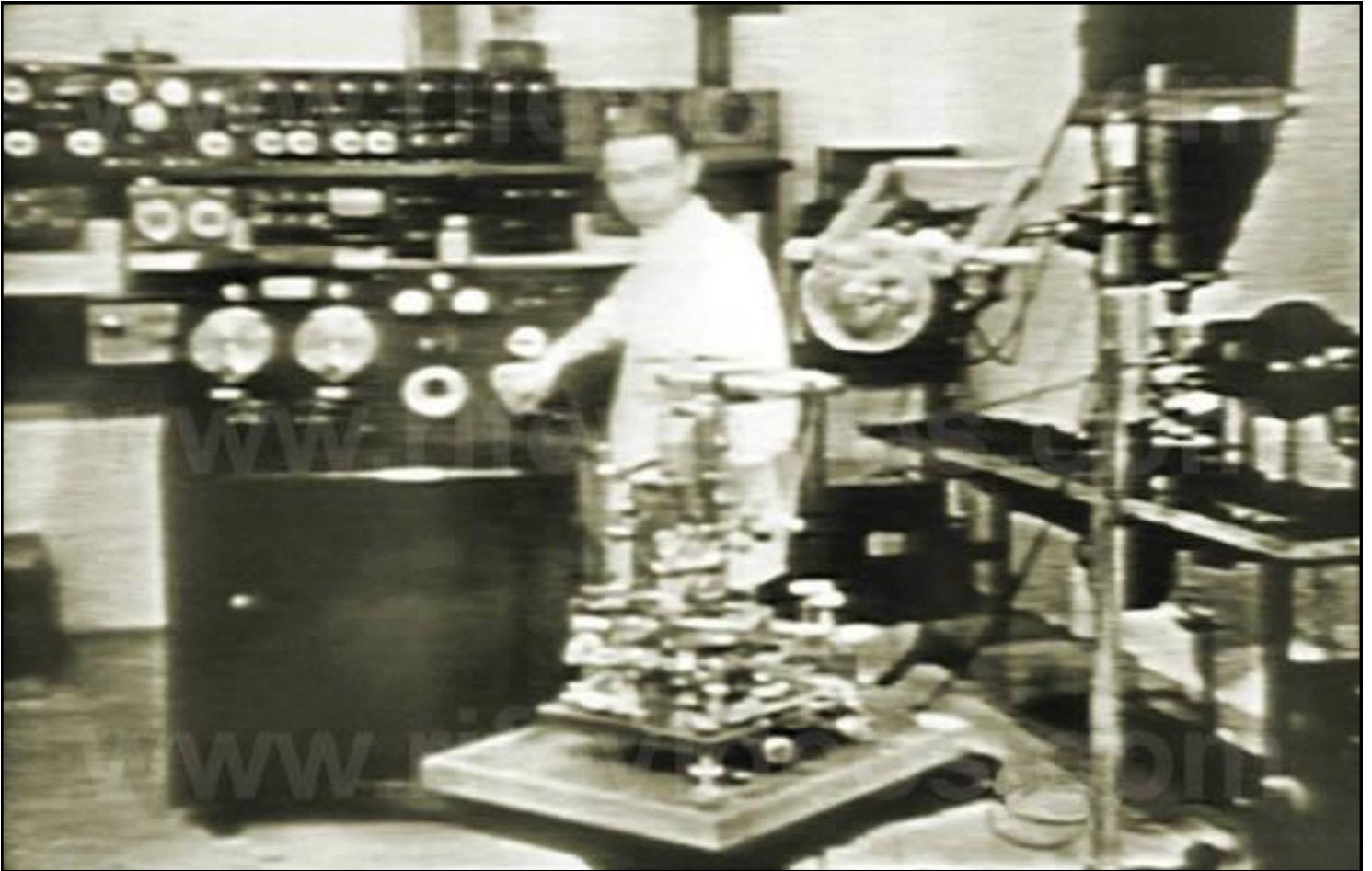
model 281 were connected together, was from about 12,000 Hertz to about 1,800,000 Hertz. Its power output through the ray tube was about 50-watts. The frequencies it output were mostly in the AM radio band of frequencies. This equipments frequency range now explains why all of Dr. Rife's frequencies were less than 1.8 million Hertz as listed on the Rife Ray #4 documents. The Rife Ray #3 was the instrument that was used by Dr. Rife and Dr. Milbank Johnson M.D., back in the [1934 clinic on cancer and tuberculosis patients.](#)

In chapter 8, we will look at Dr. Rife's Rife Ray #4 Rife Machine and the frequencies which Dr. Rife and Philip Hoyland read. We will compare them with the frequencies in the chart below which were calculated from the mixing of frequency #1 and frequency #2 found on his pre-1934 lab notes.

<b>Dr. Rife's Lab Note Frequencies From Before 1935</b>			
<b>Microorganism</b>	<b>#1 Frequency In Hertz</b>	<b>#2 Frequency Meters To Hertz</b>	<b>Calculated From Mixing Of #1 &amp; #2</b>
Actinomycosis (Streptothrix)	678,000 Hz	186,554 Hz	192,308 Hz
Anthrax	900,000 Hz	272,539 Hz	138,808 Hz
Anthrax Symptomatic	400,000 Hz	16,655 Hz	
B. Coli (Rod form)	683,000 Hz	317, 914 Hz	418,100 Hz
B. Coli (Filterable virus)	8,581,000 Hz	11,103,424 Hz	773,000 Hz
Bacillus X Cancer	11,780,000 Hz	17,033,662 Hz	1,607,450 Hz
Bubonic Plague	160,000 Hz	512,466 Hz	
Catarrh	1,800,000 Hz	1,713,100 Hz	
Cholera Spirillum	851,000 Hz	960,873 Hz	
Contagious Conjunctivitis	1,206,000 Hz	2,025,625 Hz	
Diphtheria	800,000 Hz	1,090,154 Hz	
Glanders	986,000 Hz	736,591 Hz	
Gonorrhea	600,000 Hz	150,649 Hz	234,628 Hz
Influenza	1,674,000 Hz	1,946,704 Hz	
Leprosy	743,000 Hz	251,926 Hz	
Pneumonia	1,200,000 Hz	381,901 Hz	
Spinal Meningitis	927,800 Hz	1,795,164 Hz	426,800 Hz
Staphylococcus Pyogenes Aureus	998,740 Hz	555,171 Hz	478,341 Hz
Staphylococcus Pyogenes Albus	Rife's papers	549,070 Hz	
Streptococcus Pyogenes	1,214,000 Hz	2,111,214 Hz	722,000 Hz
Syphilis (Treponema Pallidum)	900,000 Hz	2,775,856 Hz	787,950 Hz
Tetanus	700,000 Hz	15,779 Hz	234,221 Hz
Tuberculosis (Rod form)	583,000 Hz	541,142 Hz	368,800 Hz
Typhoid Fever (Rod form)	900,000 Hz	868,964 Hz	760,350 Hz
Typhoid Fever (Filter passing)	9,680,000 Hz	13,943,835 Hz	1445,350 Hz

## Chapter 8

### 1935 Rife Ray #4 Rife Machine



- 1) It used a ray tube.
- 2) It had a fixed RF oscillator which lit the plasma tube and was used as a type of carrier wave.
- 3) It had two separate variable oscillators so it could output two RF frequencies simultaneously, or at the same time. The frequency range was from 87,000 Hertz to 22.5 MHz.
- 4) The output to the ray tube was variable up to 500-watts. But due to the fact that it used a damped wave the power in the waveform was between 50 to 60-watts.

Some have asked how we can be sure these photos we have are of the Rife Ray #4 Rife Machine. It is a simple process of deductive reasoning. John Crane, one of Dr. Rife's 1950's business partners, incorrectly dated the Rife Ray #4 as a 1942 Rife Machine. This misdating has led to some confusion which we will now attempt to clear up. In the photo, shown above, we see Dr. Rife using the instrument which John Crane dated as built in 1942. However, the lab film this picture was taken from was completed in May of 1939 for Dr. Rife's trip to England. A letter dated May 14, 1939, confirms this fact. We quote:

**RIFE**: *"The motion picture film is all finished, showing the complete method of the isolation of the BX, directly from the human tumor, the inoculation of the experimental animal, the removal of the tumor*



*surgically, and the recovery of the BX from the tumor. This film show the complete interior of the laboratory, this method and technique of bacteriology and filterable virus, and for the first time ever shown electrical frequencies and wave forms on motion picture film. These frequencies are from several types of electrical therapeutic apparati,"* ([Letter to Dr. Gonin from Dr. Rife dated May 14, 1939](#)).

This letter properly dates the instrument as having been built before May of 1939 and shows that John Crane's dating was incorrect. In the background of this photo, behind the instrument Dr. Rife is using, we see his Kennedy Company equipment (which was the Rife Ray #3) back against the wall. Therefore this instrument Dr. Rife is using could have only been built before 1939. Since we also have photos of the Rife Ray #5, built in the summer of 1936, then logically this could only be a photo of the Rife Ray #4. The Rife Ray #4 documents show it was completed in the fall of 1935. The next photo, shown below, is a better photo of the Rife Ray #4 instrument.



Bertrand Comparet, Dr. Rife's attorney, said three experimental machines were built. With the proper dating of this Rife Machine, which shows it is the Rife Ray #4, we will now discuss it in detail.

Of the three experimental machines, it appears that two were Rife Ray #4's and the third was the Rife Ray #5 or Beam Ray Clinical experimental instrument which was used in a clinic in 1937. We will cover the Beam Ray Clinical instrument later.

Dr. Johnson's machine was the first Rife Ray #4 that was built in 1935. After Dr. Johnson's instrument was built he states in a letter that the second #4 instrument was soon to be built for Dr. Rife:

**DR. JOHNSON:** *"While you have the machine [Dr. Johnson's Rife Ray #4] down there, I hope you and Jack are working on those bananas so we can get an M.O.R. for them, if possible. As soon as you send Phil and the machine back, I am going to start Phil on making your Machine."* ([Letter from Dr. Johnson to Dr. Rife, November 25, 1935](#)).

Now that we have established the fact that both Dr. Milbank Johnson and Dr. Rife had their own Rife Ray #4 instrument we can continue with the history of this instrument. As pointed out earlier in this report Philip Hoyland eventually became Dr. Rife's engineer and business partner. Philip Hoyland was the one who measured Dr. Rife's frequencies when he came to Dr. Rife's lab in 1935.

We will also point out that [the frequencies used in this instrument](#) were transferred from the Rife Ray #3 to the Rife Ray #4 after Dr. Rife and Philip Hoyland read the fundamental frequencies. We have in the document "Development of the Rife Ray" a description of this instrument:

*"In 1935 in entirely new application of the old principle was incorporated in an instrument built under the direction of Commander Rife by Philip Hoyland of Pasadena California. The new instrument was light socket powered and had an output of 500 Watts. Designated #4 [Rife Ray #4] [Many of the power output measurements of Dr. Rife's equipment were misread]. Furthermore it was equipped to deliver two distinct frequencies simultaneously and both variable. This apparatus proved to be more efficient with decidedly fewer factors of error in [the laboratory tests using 75 pounds of horse meat.](#)" ([Development of the Rife Ray and use in devitalizing pathogenic micro-organisms](#)).*

In the laboratory tests that were performed with the Rife Ray #4 they made many tests to determine its capability. Dr. Johnson talked about the many different aspects of the machine they had to test in a letter:

**DR. JOHNSON:** *"Also, about this time, the new Rife Ray Machine [#4] had arrived at its point of construction when elaborate tests had to be made in order to synchronize the M.O.R. produced by it with the M.O.R. produced by the old machine [#3]. Now, we are in the throes of accurately charting the 14,000 possible settings on the new machine. Our next process, beginning next week, is to test its penetration, the time required in the different exposures, the different depths of lesions. So, take it altogether we are just about as busy as a bear in berrytime."* ([Letter from Dr. Johnson to Dr. Schram, dated September 25, 1935](#)).

## **Dr. Rife's Single M.O.R. Frequency**

The Rife Ray #4 instrument documents show it could put out two RF or radio frequencies simultaneously. Dr. Rife's previous Kennedy Model 110 when connected to the Model 281 could output two frequencies simultaneously like the Rife Ray #4. It is apparent that Dr. Rife still wanted this capability in this new instrument. Dr. Rife from time to time would run one frequency on two different organisms M.O.R.s. simultaneously. This is pointed out by Dr. Rife on the John Marsh Rife audio CD's:

**RIFE:** *"We found the frequency of the virus, we found the frequency of the rod, which we had for years of course. But if we use the two of them simultaneously over the same carrier wave, the patient gets well and the Guinea pig gets well, but if you use one or either individually you either kill the patient or you don't do nothing."*

This statement from Dr. Rife also shows that each organism only requires a single frequency to devitalize it. The rod form of tuberculosis requires a different frequency than the virus form. In the above quote from Dr. Rife, he clearly states "frequency" for each organism, not frequencies. Since his instrument could only output two frequencies at the same time this clearly shows that each organism has a single frequency as its M.O.R. In another statement when Dr. Rife was talking to John Crane about tuberculosis he said:

**CRANE:** *"We have the frequency that will devitalize E. coli, don't we?"*

**RIFE:** "We have yes. And we have the frequency also that will devitalize the filterable form of *B. coli* which is not necessary. There is only one organism that we have to use two frequencies simultaneously, and that as we've spoken of before John, and that is the *Bacillus of tuberculosis*, where it has that so-called poison molecule of Von that is released by any known methods of devitalizing the organism and that's it." ([Marsh collection, Rife audio CD's](#)).

Dr. Rife states in this quote that there is only one organism that needs two different frequencies to devitalize it. All the other organisms only need a single frequency to devitalize them. The reason that Tuberculosis needs two frequencies is due to the fact that Dr. Rife said both the rod form and the virus form must be devitalized at the same time or the virus form will feed on the dead body of the rod form causing the patient to die from toxemia.

Even with what Dr. Rife has said many have still believed that it took two frequencies to devitalize a single organism. This misunderstanding came about because Dr. Rife had two frequencies listed for each organism on his pre-1935 lab notes. From the reading of these documents, we can see this is not the case. It was the fact that he was using harmonics of the fundamental frequencies, prior to 1935, which lead to this misunderstanding. To further make the point that it only takes a single frequency to devitalize an organism we will read several more statements made by Dr. Rife:

**RIFE:** "The frequency of each bacteria is absolutely individual. They run through a very, very large gamut. Some of them are very, very broad, long. Some of them are not extremely short. There's none of them what we call our ultra short wave that I have found yet." (Marsh collection, Rife audio CD's).

**DR. DICKLAND:** "Is there a different frequency between cancer and tuberculosis?"

**RIFE:** "Oh much. Every organism requires a different frequency owing to its own chemical constituents or its premodel cell or predominate chemical factor. " (Marsh collection, Rife audio CD's).

**RIFE:** "We found the frequency of the virus, we found the frequency of the rod, which we had for years of course." (Marsh collection, Rife audio CDs).

**RIFE:** "So we're throwing an electronic frequency through the tissues of the body that simply devitalizes the bacteria with no harm to normal tissue." ([Marsh collection, Rife audio CD's](#)).

These statements clearly show again that each organism has its own frequency and that it only takes a single frequency to kill, devitalize or render it harmless. As we read other statements or documents you will easily be able to see that this understanding was plainly understood by Dr. Rife and all the other doctors that used his equipment.

Because this is a very important point that needs to be understood we will read a few more documents which contain added information on this subject. When the Rife Ray #4 was finally completed Dr. Johnson wrote a letter to Dr. Rife in which he made this observation:

**DR. JOHNSON:** "Maybe these *Much glands* are another form of the *T.B.* [tuberculosis] corresponding to our filter passing form and we will have to get an *M.O.R.* for them so as to destroy them at the same time that we do the rod form of tuberculosis....Now that we have a machine in which we can give two *M.O.R.s* at one time, it would be easy to treat all forms of tuberculosis, both for the tubercle bacilli and the *Much granules*." ([Letter from Dr. Johnson to Dr. Rife dated, September, 12 1935. Page 3](#)).

Since the Rife Ray #4 only had two variable oscillators and each one was set on a different *M.O.R.* frequency then it would only take one frequency to devitalize each organism. In another letter this same understanding is given:



**DR. JOHNSON:** *"I would suggest that you set up a slide with a hanging drop planted with the [crypto-myces pleomorpha](#). Set your machine and the microscope together. After it gets growing, start out and set on of the groups to the MOR of BX. Then with the other group, start with a certain switch on Group 2 beginning at zero. Give one minute exposure, wait about fifty minutes, and then see if there is any change. Then move the dial of Group 2 up to ten and give another exposure, waiting about fifty minutes and the examining it carefully. Go on that way throughout the dial and you will get through about one switch a day. Pretty soon you will find some setting that will kill the organism. Mind you, you are running at every exposure Group 1 on the BX MOR. If you got this setting started, Jack could do the microscope work and if he got any change, he could call your attention to it. That would save your eyes and your time. It is very important that we find the MOR of this fungus before I start in with the clinical work in the hospital with this new machine."* ([Letter from Dr. Johnson to Dr. Rife dated, October 10, 1935](#)).

When this letter was written they already had the frequency for the BX cancer virus and they were trying to find the frequency for the cryptomyces pleomorpha fungi. It is clearly pointed out that one oscillator was set on the BX organism and the second oscillator was being used to try and find the frequency for the cryptomyces pleomorpha fungi. Dr. Rife when speaking about the BX virus clearly states that it had a certain frequency, not frequencies:

**RIFE:** *"If you don't have an absolute coordinative resonance, you have nothing. One tenth of one meter off and you have nothing. It's got to be absolutely correct for that individual organism. It's got to be precise...the virus of cancer has a certain frequency. And it has to be there, otherwise if it's a little one way or the other, no good, no good for nothing."* ([John Marsh Rife CD's - CD 5 track 2, CD 6 track 2, CD 7 track 1 and CD 9 track 1](#)).

There are even more documented examples that show that only one frequency is needed for each organism. From the horse meat tests done with the Rife Ray #4 we read:

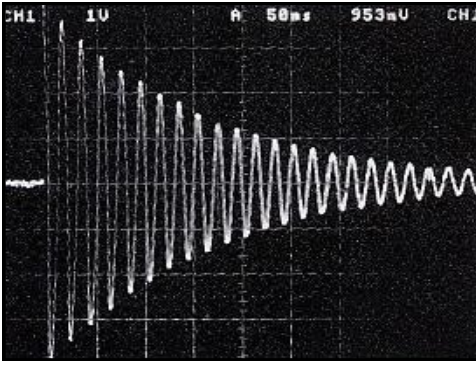
*"The test being ready, the No. 4 Rife Ray Machine was set for the MOR of B. Typhosis (rod) and also for the filter-passing form. It was turned on for an exposure of three minutes at 400 watts..."* ([Test of the No. 4 Rife Ray Machine, Page 2](#)).

The frequency listed on the Rife Ray #4 documents for B. Typhosis rod form is 760,000 Hertz and the frequency for the B. Typhosis filter-passing virus form is 1,445,000 Hertz. This document also confirms that only one frequency is needed for each organism to devitalize it.

There is one more document that we will look at. This document has the harmonic frequency of 11,780,000 Hertz for the BX frequency. The frequency that was read by Dr. Rife and Philip Hoyland was 1,604,000 Hertz. But in his lab papers Dr. Rife listed only one frequency for devitalizing the BX virus. Below is his statement:

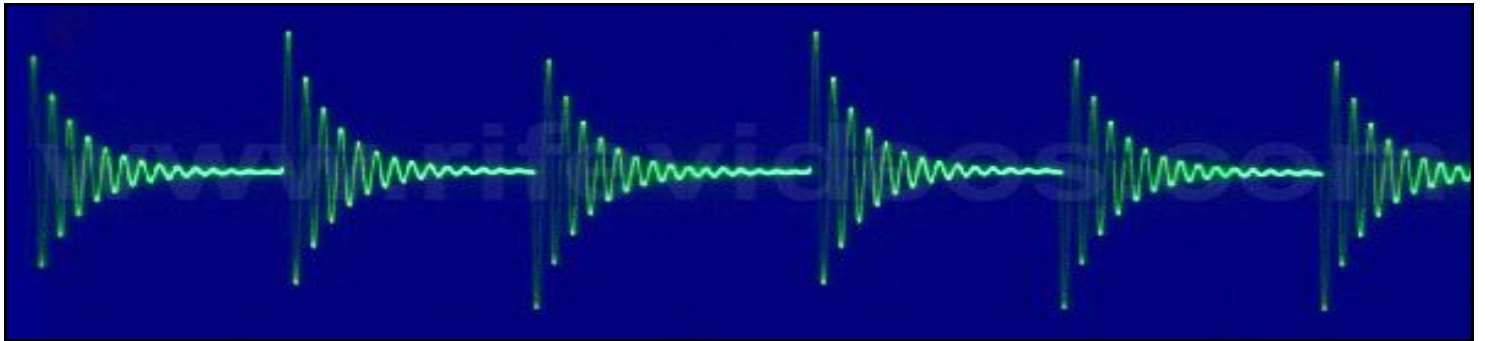
**RIFE:** *"Since experiments show that the Bacillus X [BX cancer virus] in form A exists in malignant tissue, it is theoretically possible to change the cycle to form B by application of the Argon Ray and vacuum conditions. After the cycle change has been accomplished (in theory), the application of the oscillative ray at a cycles per second vibration of 11,780,000 [fundamental frequency measured in 1935 was 1,604,000] should completely destroy the B.X. in the malignant tissue."* ([Rife Research Laboratory lab note on the BX](#)).

So that no one misunderstands this quote. It was the change of the Bacillus form from A to B using the Argon Ray and vacuum conditions that was the "theory" not the destroying of the B.X. using the 11,780,000 (frequency of 1,604,000 determined in 1935) Hertz. All these documents show that Dr. Rife found that only one frequency is required for each organism.



There is one other thing that apparently needs to be combined with the M.O.R. frequency and that is the pulsing of the waveform. When we discussed the Rife Ray #3 we talked about a fixed audio frequency pulsing circuit. The Rife Ray #4 also had a fixed audio frequency pulse circuit. The waveform that it outputs is shown in Dr. Rife's lab film and is the photo shown on top of the next page.

The other photo, shown above, top left, is a clearer photo of what a damped wave looks like. Below is another photo showing what a damped waveform looks like. How Dr. Rife created this waveform was not known until a circuit from an original Beam Ray Laboratory Rife Machine was rebuilt. This circuit will be discussed in detail later in this paper when we cover that instrument.



### **Dr. Rife's Audio Pulsing Or Gating Circuit**

Though we will discuss the building of this circuit later the importance of that fixed audio frequency pulsing circuit will be discussed now. The reason for this is it appears that without this pulsing circuit it was more difficult to devitalize an organism.

This audio frequency pulsing circuit was put into the Rife Ray #4 Rife Machine as a fixed audio frequency. It was not a variable audio frequency circuit. The Rife Ray #4 instrument documents show the #4 instrument had no variable audio oscillator which indicates that Dr. Rife believed that it was no longer necessary for M.O.R. work. But the fix audio pulsing circuit was absolutely necessary to be put into the instrument so that the high RF frequency M.O.R. frequencies were pulsed in order to help devitalize the various organisms. All of the frequencies that Dr. Rife and Philip Hoyland read from the Kennedy Model 110 and transferred to the Rife Ray #4 were RF frequencies and needed to be pulsed or gated. The lowest frequency was for Anthrax at 139,200 Hertz; the highest was 1,604,000 Hertz for the BX organism that caused cancer.

The Rife Ray #4 would have also been a sine wave instrument just as the Kennedy Company equipment was. Since the Rife Ray #4 had two high RF frequency oscillators it would allow for the oscillators to be set at two different M.O.R.s. This instrument was probably built much like the [Beam Ray Laboratory instrument](#) which connected the ray tube between the two RF oscillator tank coils. The reason for this is the fact that the bandwidth of the RF tank coils could only pass a frequency of about 250,000 Hertz and Dr. Rife was using frequencies much higher than this.

## Dr. Rife's Carrier Wave

We will now discuss Dr. Rife's use of a carrier wave in his instruments. This next statement by Dr. Rife's verifies the fact that with the Kennedy equipment or Rife ray #3 he used a carrier wave:

**RIFE:** *"We found the frequency of the virus, we found the frequency of the rod, which we had for years of course. But if we use the two of them simultaneously over the same carrier wave, the patient gets well and the Guinea pig gets well, but if you use one or either individually you either kill the patient or you don't do nothing".* ([Marsh collection, Rife audio CD's](#)).

Dr. Rife's mention of a carrier wave has led to some confusion in the past because when we think of a carrier wave we think of a higher RF frequency that the lower RF or audio frequencies would ride on. We talked about how Dr. Rife used a spark gap in the earlier years. But the documents also show that this spark gap method was not used with the Rife Ray #3 or the Rife Ray #4. The "Development of the Rife Ray" document tells us what the new carrier wave was:

*"And as the voltage at this point was quite small, it was found necessary to apply external voltage across the anode and cathode of the output tube to act as a carrier wave for the frequencies that were generated in the apparatus."* ([Development of the Rife Ray and use in devitalizing of pathogenic micro-organisms](#)).

Dr. Rife's carrier wave was just an external high voltage current that was used as a means to light the ray tube. The use of this high voltage current as a carrier wave was also used with the Rife Ray #4 and was not removed from the instruments until the summer of 1936 when the new [Beam Ray Clinical instrument](#) was built. This will be covered later.

Dr. Rife used the Rife Ray #4 Rife Machine in his laboratory until he closed it down in about 1947. The Rife Ray #5 or Beam Ray Clinical instrument was completed in the summer of 1936 and was the new design that was used by all the doctors. Dr. Johnson used his Rife Ray #4 instrument in a minimum of at least two medical trials. Dr. Johnson always had his patients sign a release card, shown on the bottom of page 64, in order to be treated with the frequencies output by the Rife instrument.

On page 65 is a chart showing the sine wave frequencies that Dr. Rife and Philip Hoyland read from the Kennedy Company equipment. Those frequencies were taken from the Rife Ray #4 document and are listed in the first column of frequencies. Most people notice that all but one frequency is rounded to the nearest thousandth indicating that they did not try to narrow down the frequencies any closer than this. These frequencies were then used in the Rife Ray #4 instrument. We now know these frequencies were the frequencies used in the 1934 clinic since they were taken from the Rife Ray #3 used in that clinic. Also included in the chart, in the second column of frequencies, are Mike Fayer's calculated frequencies taken from the old lab notes. You will notice that both columns of frequencies are very close showing that Dr. Rife was using the same frequencies. The Rife Ray #4 document, mentioned above, and its additional page were mentioned in a letter written by Dr. Milbank Johnson to Dr. Rife dated Oct. 15, 1935:

**DR. JOHNSON:** *I am also inclosing a copy of a chart prepared for me by Phil [Philip Hoyland] which show the frequencies in kilocycles of the different M.O.R.'s we have worked with. Opposite these frequencies you will find the proper switch and settings on both groups. Now, in looking over the frequencies representing the M.O.R. of certain organisms, I find that the typhoid rod has 760 kc. And just above that you will find that the typhoid filter passing has 1445 kc. - that is almost an exact harmonic of the rod. Assuming that the banana might represent the rod form of the cryptomyces pleomorphia - on the same plan let us assume that the B.X. is the filter passing form of this organism. If that is so, we should kill the rod, it being the harmonic of the rod form, at 800 kc. [this statement verifies that the BX*



M.O.R. frequency was 1.604 kc. - or 1,604,000 Hertz]. This 800 kc. Will come in group No. 2 on switch 6. A reference to the proper chart under Group No. 2 would give the exact setting to get 800 kc. This is just a chance and I have no assurance that it will work out, but I think it is worth trying so I think I would try on switch 6 in Group N. 2 for your first effort to kill the fungus, or rather to kill the bananas. ([Letter from Dr. Milbank Johnson to Dr. Rife, October 15, 1935](#)).

This letter and the [Rife Ray #4 document](#) confirm that Dr. Rife was reading harmonics of his frequencies prior to 1935 and that each organism only has a single frequency as its M.O.R. The letter also shows that they were using the frequencies read by Dr. Rife and Philip Hoyland when he came to Dr. Rife's lab to read the Rife Ray #3 in 1935. The frequencies used in Rife Ray #4 were used to create the next version of Dr. Rife's machine.

**CHAPTER SUMMARY:** The Rife Ray #4 was built in 1935 at the request of Dr. Milbank Johnson because he wanted an instrument that was in the comforts of a single cabinet. It had the highest frequency range and power output of any of Dr. Rife's machines. There were only two of these machines built. The first one was built for Dr. Milbank Johnson and the second one was built for Dr. Rife. The frequencies used in this machine were the same frequencies that were used with the Rife Ray #3. Each organism only required one frequency to devitalize it. Like the Rife Ray #3, the Rife Ray #4 used a fixed audio frequency pulsing or gating circuit to create a high potential voltage rise in the RF M.O.R frequency to help devitalize the organism treated with the instrument. The Rife Ray #4 was used by Dr. Milbank Johnson in at least two clinical trials.

In chapter 9, we will take an in-depth look at the next instrument that was built by Dr. Rife's engineer, Philip Hoyland. Philip Hoyland developed a new method of delivering Dr. Rife's M.O.R. frequencies.

**RELEASE**

It has been determined that I, F. G. Adamson, am suffering from a malignant disease which I believe to be Sinus infection and I am informed that Dr. Milbank Johnson and his associates have been experimenting with a new method of treatment of said disease upon the lower animals with sufficient success to lead me to hope that it may be successful in my case. However, I wish it distinctly understood that neither Dr. Milbank Johnson nor his associates have made any promises, claims, representations or other assertions as to the outcome of their new method of treatment; Dr. Milbank Johnson and his associates have agreed to subject me to their new method of treatment without charge to me and in consideration of their services in this connection, I hereby consent to allow Dr. Milbank Johnson and his associates to subject me to their new method of treatment of my disease and further do consent to allow said Dr. Milbank Johnson and his associates to subject me to any other type of treatment, whether operative or otherwise, that they may in their opinion deem necessary or advisable in connection therewith or as a result thereof; and further, I hereby release said Dr. Milbank Johnson, his associates, employees and attendants, from any and all liability for any untoward results that I may suffer in connection with or as a result of any such treatment or treatments, whether operative or otherwise, with the full realization on my part of the experimental character of said new method of treatment. I agree that this consent and release shall be binding upon my heirs and legal representatives and that the same shall extend to and release the heirs and legal representatives of said Dr. Milbank Johnson, his associates, employees, and attendants. It is further understood that this release shall extend to and include any hospital or clinic that Dr. Milbank Johnson or his associates may be associated with, and also their respective staffs, employees, and attendants.

I have asked certain of my relatives to agree to the terms of this instrument and they have signed below.

Dated at San Diego this 24<sup>th</sup> day of August, 1936

Witness: \_\_\_\_\_

F. G. Adamson  
PATIENT

I or we hereby agree to be bound by the above: \_\_\_\_\_

RELATIONSHIP  
RELATIONSHIP

## Rife Ray #4 Sine Wave High RF Frequencies And Calculated Frequencies From The Pre-1934 Lab Notes

	Rife Ray #4	Calculate From Lab Notes
Actinomycosis (Streptothrix)	192,000 Hz	192,308 Hz
Anthrax	139,200 Hz	138,808 Hz
B. Coli (Rod form)	417,000 Hz	418,100 Hz
B. Coli (Filterable virus)	770,000 Hz	773,000 Hz
Bacillus X or BX Virus (Cancer Carcinoma)	1,604,000 Hz	1,607,450 Hz
Bacillus Y or BY Virus (Cancer Sarcoma) This frequency was not on the Rife Ray #4 document because it was not found at that time. It was in 1936 when this viruses frequency was obtained and it was used in the Beam Ray Clinical machine. We included it here with this explanation.	1,529,520 Hz	No Lab Note
Gonorrhea	233,000 Hz	234,628 Hz
Spinal Meningitis	427,000 Hz	426,800 Hz
Staphylococcus Pyogenes Aureus	478,000 Hz	478,341 Hz
Streptococcus Pyogenes	720,000 Hz	722,000 Hz
Syphilis	789,000 Hz	787,950 Hz
Tetanus	234,000 Hz	234,221 Hz
Tuberculosis (Rod)	369,000 Hz	368,800 Hz
Tuberculosis (Virus)	?769,000 Hz	
Typhoid Fever (Rod)	760,000 Hz	760,350 Hz
Typhoid Fever (Virus)	1,445,000 Hz	1,445,350 Hz

## Chapter 9

### 1938 to 1939 Beam Ray Corporation Clinical Rife Machine



1. The instrument used a ray tube.
2. Had one variable Audio oscillator and one Fixed RF oscillator set at 3.30 or 3.80 MHz.
3. Power usage was about 450 to 600 watts. Output to the ray tube 75 RF watts.

Just as with the Rife Ray #4 Rife Machine we must determine what the Rife Ray #5 or Beam Ray Corporation Rife Machine looked like. The reason we need to determine this is because unless we know what those instruments really looked like we may think we have a true Rife Ray #5 or Beam Ray Clinical instrument and find out later that it is not one. Beam Ray Corporation built two different instruments, one was called the Clinical instrument and the other was called the Laboratory instrument. The fact that Beam Ray built two different instruments was pointed out in the Trial: ([Beam Ray Trial Transcript #209-210](#)).

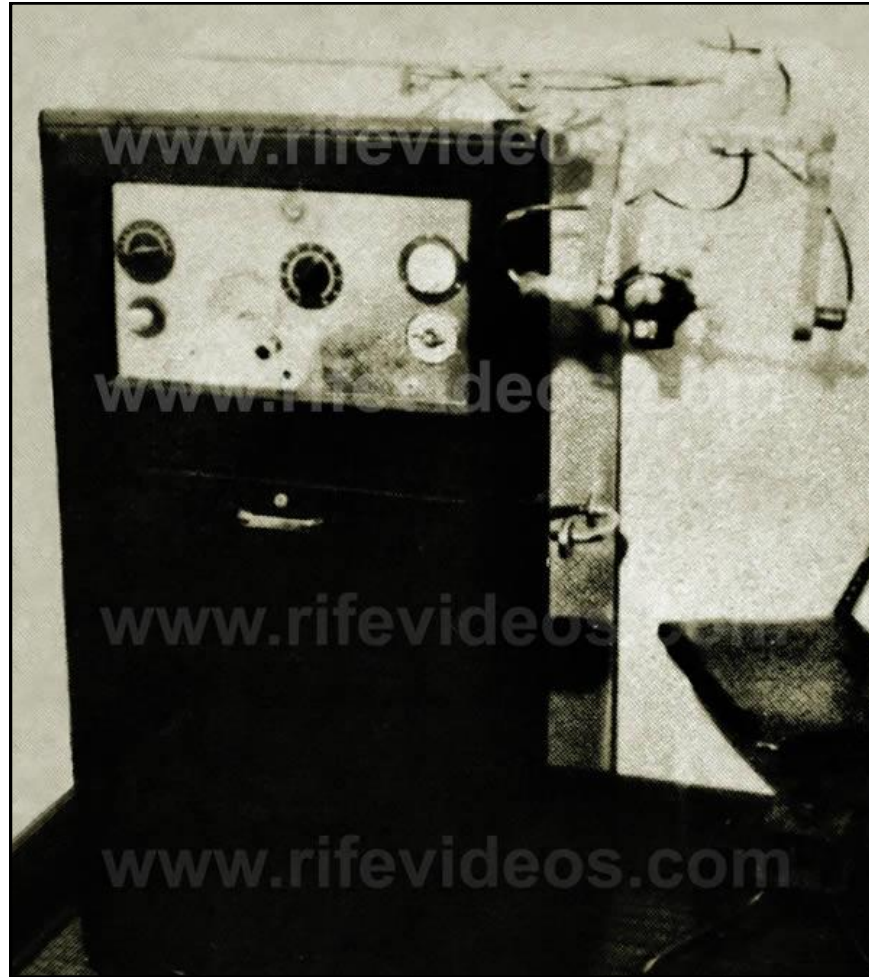
**COMPARET:** *“The four machines bought by the British were two so-called laboratory types and two so-called clinical types, what was the difference between the two?”*

**HOYLAND:** *“The clinical type was similar in all respects to the Rife machine except that it did not have [word missing] of the [word missing] used on Mrs. Henderson.”*

We now know that Beam Ray Corporation built two different Rife Machines of which one was built using the original Rife principles and it was considered the Laboratory instrument. The other was built using a different method of generating the frequencies and we will show that it was called the Clinical instrument. First, we will prove that the photo, shown above, and the next photo, shown on the top of the next page, are photos of the Rife Ray #5 or Beam Ray Clinical instrument.



The instrument, shown below, is a photo of one of two Rife Machines owned by Dr. James B. Couche which he purchased from Beam Rays Corporation. Dr. Hamer also purchased one of these Clinical Rife Machines. This information was pointed out during the Trial and gives us the proof we are looking for: ([Beam Ray Trial Transcript #98-99, 217-218, 1128-1131](#) and [2700](#)).



**COMPARET**: “Before this agreement was signed did the company manufacture any Rife ray machines?”

**HOYLAND**: “They started to about the first of May [May 1, 1938]. Dr. Hamer was sold one.”

**COMPARET**: “How was the price of these machines fixed?”

**HOYLAND**: “The price was decided from the costs of what it cost to manufacture the first machine that was sold to Dr. Hamer.”

**COMPARET**: “Were the clinical machines the same as were made for Dr. Hamer?”

**HOYLAND**: “Yes.”

**COMPARET**: “Was that the same as the machine used on Mrs. Henderson?”

**HOYLAND**: “No, but the same type.”

**SAPIRO**: “These machines are perfectly good, they are just the same as the [Dr.] Couche machine and the one that gave Mrs. Henderson such relief.”

These quotes show that Beam Ray Corporation sold the Clinical style Rife Machines to Dr. Hamer and Dr. Couche. In 1951 Dr. Couche sold one of his Beam Ray Clinical instruments to Dr. Tully.

The photo on the previous page of Dr. Couche's machine and the documents we have read show us that his machine is an original Rife Ray #5 or Beam Ray Rife Machine. With this machine, we can make comparisons against it when looking at other instruments.

The next photo, shown below, is a picture of Dr. Rife and Philip Hoyland. Philip Hoyland was Dr. Rife's engineer and business partner in the Beam Ray Corporation. In this photo is an instrument. We will prove that this instrument is also a Beam Ray instrument by making some comparisons with other Beam Ray machines.



This photo of Dr. Rife and Philip Hoyland was taken for a May 6, 1938 newspaper article published by the San Diego Tribune. In the newspaper, the caption below the photo said: "Royal Raymond Rife, left and Philip Hoyland with Rife ray apparatus". On May 1, 1938, the Beam Ray Corporation started selling its Rife Ray #5 or Beam Ray Clinical Machine to doctors. This front-page newspaper article had the capability of selling many instruments. It is only logical they would have photographed the instrument they were selling.

The next two photos, shown at the top of the next page, are close-up photos of these instruments. You will notice the similarities between these two instruments. They are almost exactly alike except for the case. Beam Ray used both types of cases with the Rife Ray #5 or Beam Ray Clinical instruments they sold.



Dr. Couche's Rife Machine, above on the right, was in a case that extended all the way down to the floor. It had handles on the side and wheels on the bottom which would make it very easy to move around. Both instruments have one oscillator dial which is located on the left side of the front panel. Below that dial on Dr. Couche's instrument was a four-position band switch and on the other instrument, above on the left, is a fine-tuning dial. The fine-tuning dial was replaced by a four-position band switch in order to give the instrument better accuracy. The second dial, in the center of both instruments, goes to 100 and was the amplitude dial. Above that dial on both instruments is a tuning eye for calibrating the instrument's RF carrier frequency. Below is a photo of one of these tuning eyes.



Both instruments have a milliamp power meter located all the way over to the right next to where the ray tube is connected. Dr. Couche's instrument had a timer below the power meter to help him make sure he treated the patient for the correct amount of time. Along the bottom are the filament, sweep and output switches which are not clearly marked on Couche's instrument but we can see what appears to be three different switches, two below the center amplitude dial and one below the timer. The comparison we have just made with Dr. Couche's Beam Rays instrument shows they are both Beam Ray instruments. Beam Ray Corporation just put this Clinical machine into two different cases.

In the document "Development of the Rife Ray" we have a description of this Beam Ray Clinical instrument:

*"In the early part of 1936 Commander Rife and Mr. Hoyland spent much time collaborating on revising some of the applications of the fundamentals of the instruments due to the advancement that had tak-*



en place in the application of electronics and it was found that the carrier wave used in the previous instruments could be eliminated. During the summer of 1936 further experiments were carried on, which resulted in an entirely new method of generating the desired frequencies and produced a constant input and output in the instruments.

During this work, several new test appliances were built for further studying the different frequencies and waveforms noteworthy among these was a 9-inch Cathode-Ray oscillograph of high sensitivity, built for the purpose of photographing the different frequencies on motion picture film and thereby allowing the numerous waves to be studied at will. During the fall of 1936, Dr. Couche of San Diego and Jack Free assistant to Commander Rife conducted a clinic with one of the frequency machines treating experimentally cases of carcinoma and senile cataract..." ([Development of the Rife Ray and use in de-vitalizing pathogenic micro-organisms](#)).

The first thing that we learn from this document is the high voltage current carrier wave that was used to light the ray tube in the Rife Ray #3 and Rife Ray #4 was no longer used or needed with the new Rife Ray #5 or Beam Ray Clinical instrument. The document is correct because this style of the instrument only uses an RF carrier frequency to light the ray tube. The second thing we learn is that this instrument was working on an entirely new method of generating the M.O.R. frequencies. This method has been referred to over the years as harmonics. But it is more complex than what was originally believed.

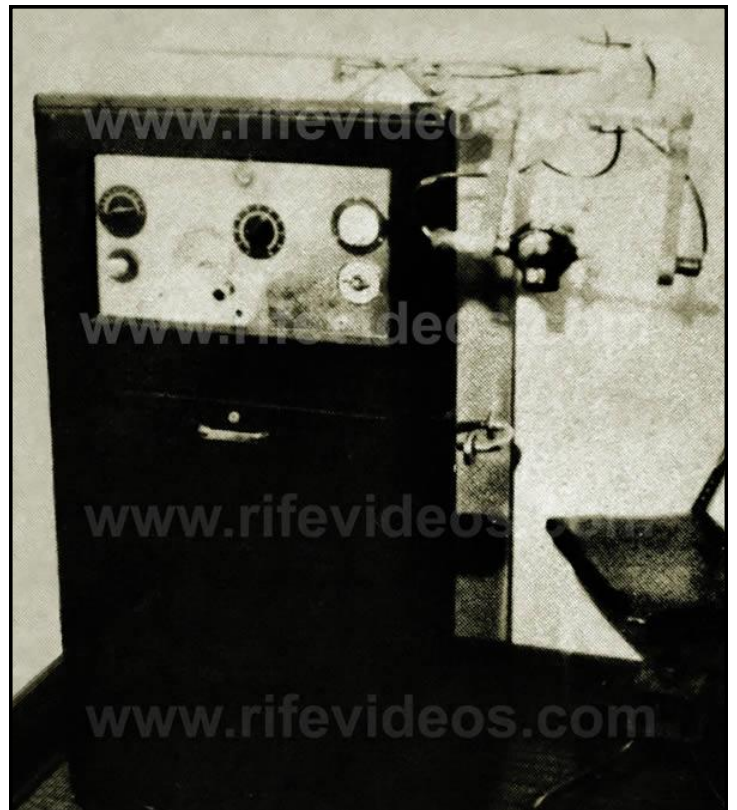
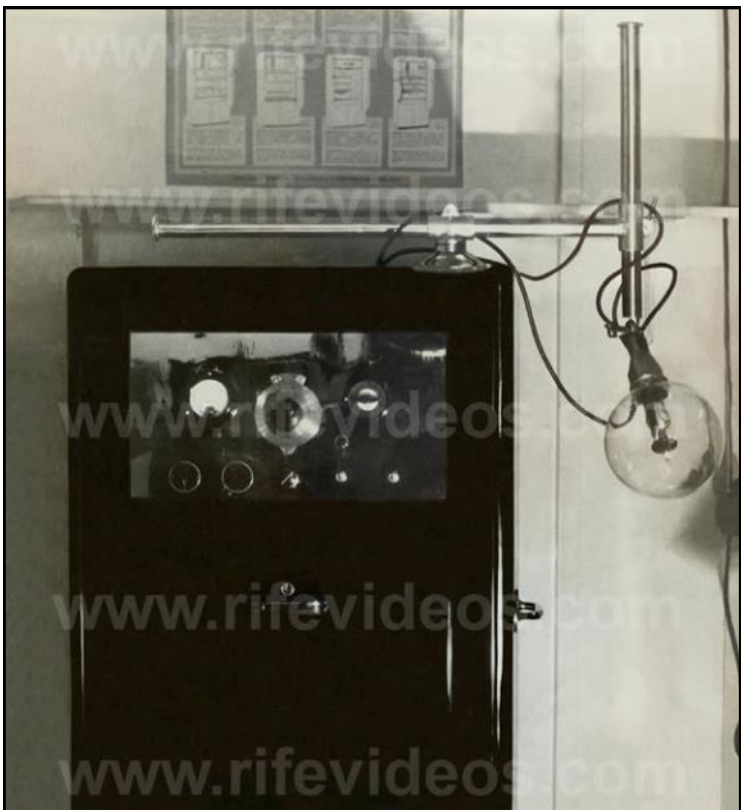
This new method that was used to generate the frequencies has been a mystery for the past 75 years. Finally with the location and purchase of an original Beam Ray Clinical instrument and the use of spectrum analysis the method that Philip Hoyland used has been discovered.

In the first photo, below on the left, is the Rife Ray #5 or Beam Ray Clinical Machine that Dr. Rife and Philip Hoyland were photographed with for the may 1938 newspaper article. In the second photo, below on the right, is a picture of an original Beam Ray Rife Ray #5 instrument. This instrument was obtained from Dr. Larry Low. He has owned it for over 25 years. This is the only known original Beam Ray Corporation Clinical instrument to have survived. It was used by a Medical Doctor who died in the mid 1960's.



We would like to thank Dr. Low for allowing us to get this instrument so we could analyze it. It is a low audio frequency instrument that uses an RF carrier frequency. This Rife Ray #5 or Beam Ray Clinical instrument is very important. The significance of this instrument is due to the fact that it is the only known original Rife Ray #5 or Beam Ray Clinical instrument to exist. There were about 14 instruments built by the original Beam Ray Company and until now no one has ever been able to find one. The fact that even one has survived is a miracle. This instrument proves beyond any doubt that Philip Hoyland was the one who first built the low audio frequency instruments such as the Rife Ray #5 Beam Ray Clinical instrument.

The next photo, below on the left, is also a Beam Ray Clinical instrument. This photo was found inside the case of the original Rife Ray #5 or Beam Ray Clinical instrument obtained from Dr. Larry Low. The second photo, below on the right, is Dr. Couche's Beam Ray machine. Both of these Rife Machines are in the same case. If you look closely you will notice that both instruments have the same metal arm attached to the top of the instrument which holds the ray tube. This same arm is also on the top of the original machine obtained from Dr. Low.



In every detail, the cases are the same. The only difference between these two machines is the layout of the front panel. Though the panels are laid out differently both machines have the frequency dial, amplitude dial, band switch, milliamp meter, timer, power light, and two switches. It appears when Beam Ray Corporation built their first instrument, which was shown in the May 1938 newspaper photo, they had no band switches dividing out the audio frequency range. The doctors that used these instruments complained about the accuracy problems. It is apparent from the Beam Ray Trial testimony that a four-position band switch was added to help stabilize the audio oscillator and hopefully solve this problem. The original Beam Ray instrument that we obtained has a band switch with four settings. Aubrey Scoon's Beam Ray Clinical replica instrument also has a four-position band switch. We will fully evaluate the Aubrey Scoon instrument later in this report. But we will refer to it from time to time as needed as we look at this original Beam Ray Clinical instrument. The 1953 AZ-58 Beam Ray Clinical replica, which we will also evaluate later in this report, had a three-position band switch. They only used a three-position switch because they used audio frequencies which were ten times lower than the original Beam Ray Clinical instrument. Because of this they did not need or use the fourth band.

To further analyze the two original Rife machines we will now do a comparison of the faceplates. We will look at the instrument obtained from Dr. Low and the instrument Dr. Rife and Philip Hoyland were standing next to in the 1938 newspaper photo.

The first two close up photos are of the variable audio oscillator control. The photo, below on the left, is the May 1938 photo. The photo, below on the right, is the original instrument we obtained. Normally the dial should only go 180 degrees from 0 to 100 as shown on the May 1938 dial. Our instrument does not have the original dial because it goes from 0 to 100 in 270 degrees.



Though the dial shows 270 degrees it will only go 180 degrees. You will also notice that our dial is bigger than the original dial and partially covers where the old fine adjustment dial was located. The fact that the hole is still there, but was covered, indicates that this instrument at one time worked the same as the instrument in the 1938 photo. When they added the four-position band switch the fine adjustment knob was no longer needed.

Our Rife Ray #5 or Beam Ray Clinical Rife Machine, like Aubrey Scoon's instrument, had four bands that cover these frequency ranges.

**Band 1: 160 Hertz to 820 Hertz.**

**Band 2: 594 Hertz to 3,190 Hertz.**

**Band 3: 2,440 Hertz to 12,930 Hertz.**

**Band 4: 9,430 Hertz to 42,600 Hertz.**



Aubrey Scoon's Beam Ray Clinical Replica instrument band ranges, listed below, were different.

**Band 1: 20 Hertz to 200 Hertz.**

**Band 2: 200 Hertz to 2,000 Hertz.**

**Band 3: 2,000 Hertz to 20,000 Hertz.**

**Band 4: 20,000 Hertz to 200,000 Hertz.**

These four bands were discussed by Philip Hoyland and Bertrand Comparet during the trial. ([Beam Ray Trial transcript #257-260](#)):

**COMPARET:** *"If you wanted to treat one with typhoid, for instance, wouldn't you have to set the machine so that it would be on a particular frequency."*

**HOYLAND:** *"No, the machines were made so that they varied over a band of frequencies."*

**COMPARET:** *"That band used for the treatment of each disease was different from other bands for other diseases, wasn't it?"*

**HOYLAND:** *"The whole list of bacteria that the machine was treating was divided into four bands."*

The next two photos, shown below, are of the tuning eye and the amplitude control. The photo, on the left, is from the May 1938 instrument. The photo, on the right, is our original Beam Ray Clinical instrument. Above the amplitude dial on the photo of the May 1938 instrument is the tuning eye.



On our instrument, you can see that the tuning eye was removed. Notice that you can still see the outline of the tuning eye mounting ring. On the May 1938 instrument the amplitude dial went from 0 to 100 and adjusted the audio frequency modulation. On our instrument, the amplitude dial also goes from 0 to 100 and adjusts the modulation of all the audio frequencies. This modulation is not true (AM) amplitude modulation. It is more of a pulse width modulation.

The next two photos, shown below, are of the milliamp meter that goes to 300 and the ray tube hookup. The photo below, on the left, is the May 1938 instrument. The photo, on the right, is our instrument.



Until the discovery of our Rife Ray #5 or Beam Ray Clinical instrument, we did not know exactly where the fixed RF tank coil was located. We thought it was probably behind the milliamp meter but now we know this is exactly where it was located.

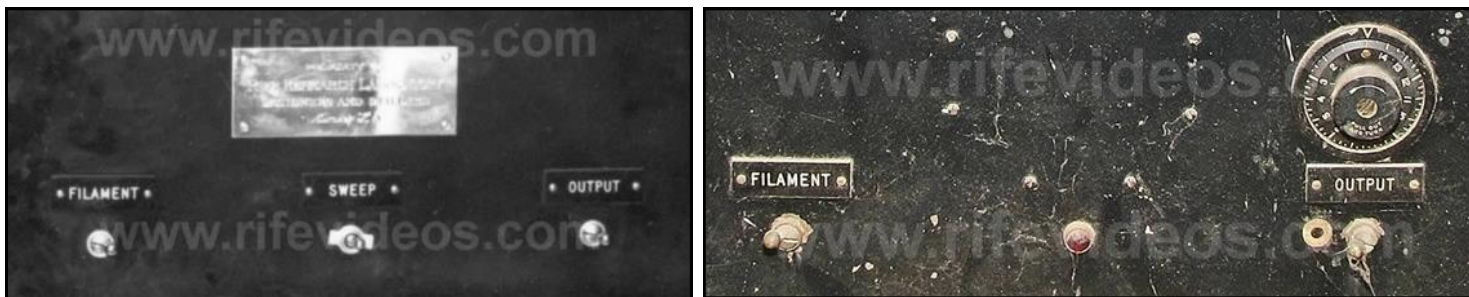
The next two photos, shown below, are of the plaque. The first photo is of the May 1938 instrument. The second photo is our instrument. These photos show where the original plaque was on the instrument.



The plaque read; "Property of the Rife Research Laboratory, Designers and Builders." On our instrument, the plaque is missing but you can still see the four mounting screws that held the original plaque. Since this plaque had Dr. Rife's name on it this could have caused the doctor problems. So he may have removed it in order to avoid the machine being called a "Rife Machine."



In the next two photos, shown below, you can see the “Filament”, “Sweep” and “Output” switches. The first photo is of the May 1938 instrument. The second photo is our instrument. On our instrument, the sweep plaque was removed and the switch was replaced with a red light that indicated that the instrument had power.

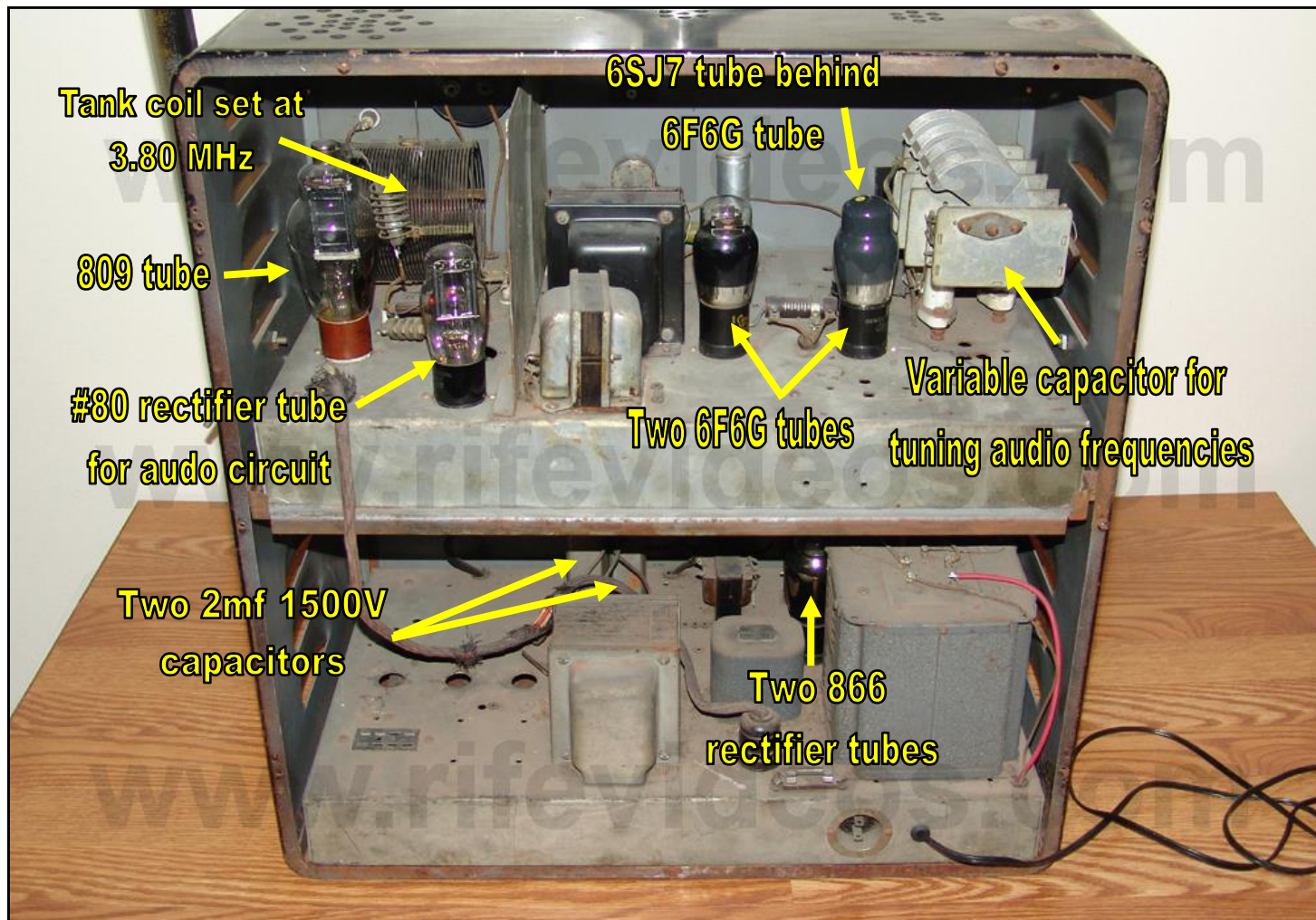


This is where the power indicator light was put on almost all of the instruments built during the 1940s and 1950s. The filament switch turned on the power to the 866 rectifier vacuum tubes and the output switch turned on the power to the 809 main amplifier vacuum tube section. Turning the power on to the 809 tube would light the ray tube. Because of the accuracy problems (due to the old (RC) resistor-capacitor audio oscillator) of the Beam Ray audio instruments the sweep switch was probably used to try and help solve this problem. The sweep switch appears to have been removed when the band switch was added. Above the output label on our instrument, we see a 15-minute timer for setting the desired runtime for each frequency that was used. The Original 1938 Beam Ray Clinical instrument photo does not have a timer but Dr. Couche’s Beam Ray instrument shows his instrument had a timer on the front panel. Even the photo of the other Beam Ray Clinical instrument which was found inside our instrument has a timer built into it. These photos show that a timer was put in almost all of the original Beam Ray instruments. The next two photos, shown below, are of the Rife Ray #5 or Beam Ray Clinical Rife Machine we obtained from Dr. Low. The photo on the left has the ray tube lit. The photo on the right has the original ray tube that came with the instrument when Dr. Low obtained it over 32 years ago. This original ray tube did not come with it when he gave it to us in 2008. But in June of 2015, the original ray tube was finally found when Dr. Low moved to a new home. We wish to thank him for sending it to us. The tube is six inches in diameter but because of the angle of the arm, it looks bigger.





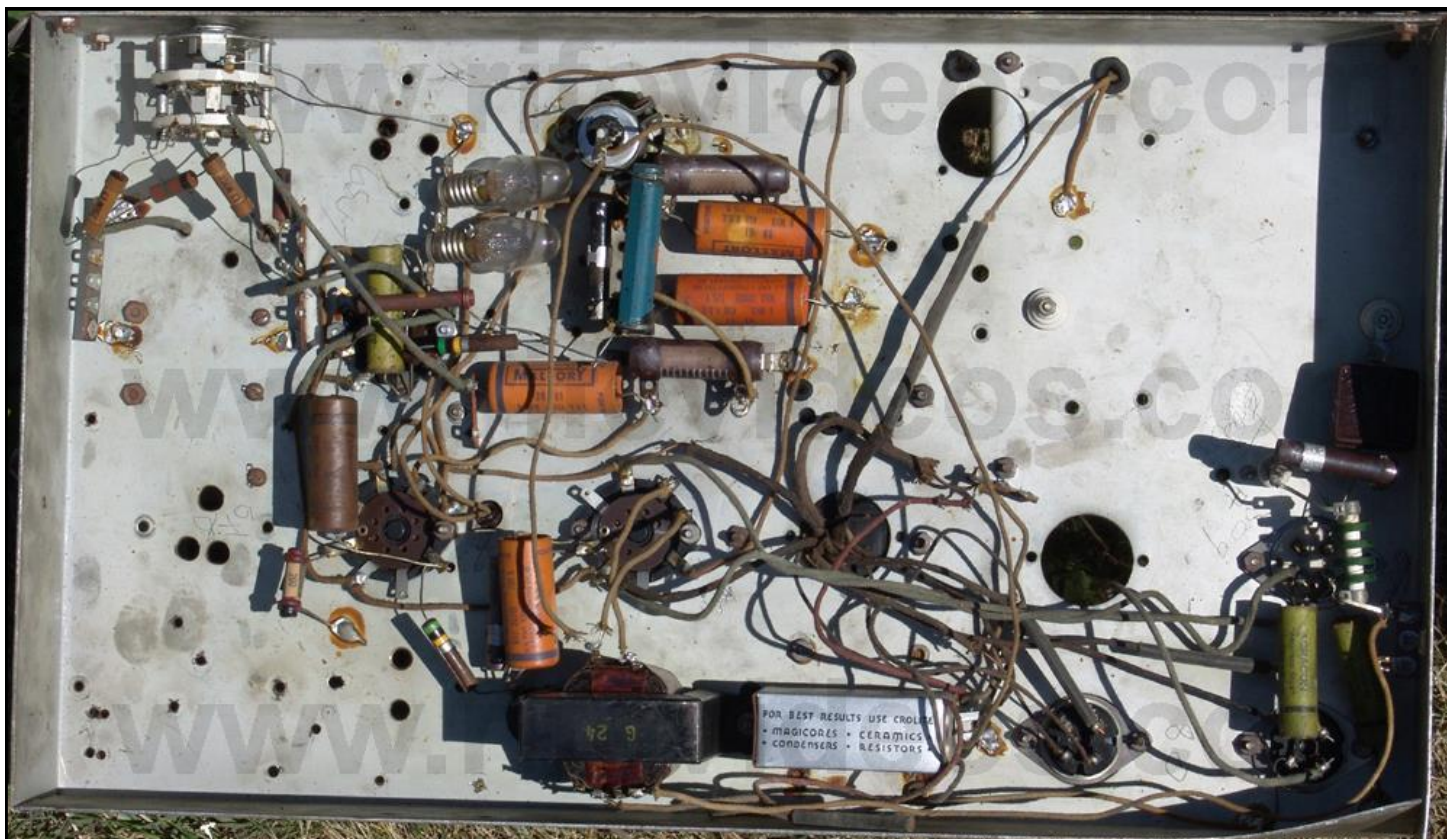
The next photo, shown below, is of the inside of the Rife Ray #5 or Beam Ray Clinical instrument. The RF tank coil of our instrument was set at 3.80 MHz. The 809 was the main output power tube. There were two 866 rectifier tubes.



The audio section consists of 2 6F6G tubes and one 6SJ7 tube. All of the Philip Hoyland audio instrument designs built from 1936 through the 1953's AZ-58 resemble each other. Anyone looking at the different instruments can see that they are all built almost in the same way. Tubes may vary, such as the 812a eventually replaced the 809, but the workings of all the instruments are similar. Both this original Beam Ray Clinical instrument and Aubrey Scoon's Beam Ray Replica instrument have Hewlett Packard sine wave audio oscillators. Mr. Peter's and I was able to repair the audio oscillator and read the different frequency band settings. It was only a 25-watt 10,000-ohm resistor which had burned out that made it so this instrument would not work.

The readings for this report was done with this original Rife Ray #5 or Beam Ray Clinical instrument . Also with Aubrey Scoon's Rife Ray #5 instrument and the AZ-58 replica instrument that we built. They all work identically the same as the original instrument. This original Beam Ray Clinical instrument did not come with any paperwork which gave the dial settings for the various audio frequencies it used. This actually turned out to be for the best because we had no audio frequency data that could have stopped us from discovering how this instrument really worked on Dr. Rife's original high RF frequencies.

The Next photo, shown below, is the underside of our original Rife Ray #5 or Beam Ray Clinical instrument. The underside of the chassis shows both the audio section and part of the RF section.



Now that we have an original Beam Ray Clinical instrument we know without any doubt that Philip Hoyland's Clinical instrument design used audio frequencies and it modulated those audio frequencies onto a fixed RF carrier frequency. Dr. Rife and Philip Hoyland had an agreement that they would share evenly on the financial profits of the instruments. Philip Hoyland stated this when he was on the stand during the Beam Ray Trial: ([Beam Ray Trial Transcript #505-507](#)).

**HOYLAND:** "Dr. Rife and I had always had the understanding that we shared evenly, as I had done all the development work."

**COMPARET:** "What do you mean by that."

**HOYLAND:** "I had done all of the building and designing of the machines other than the one original machine [Rife Ray #3 which consisted of the Kennedy equipment] that he had in his laboratory. I had brought that to a state where it could be carried around" ([Rife Ray #4](#)).

From these trial statements, we know that all the designs were Philip Hoyland's designs. When Hoyland built the audio instrument he built it on a completely different principle or method. Philip Hoyland had changed the instrument to work on a different method which used harmonics. Dr. Rife believed they were using the Rife Ray #4 RF frequencies along with harmonics. This was pointed out in the 1939 [Beam Ray Trial \(#1247-1250, 1278-1281\)](#):

**COMPARET:** "Has the Plaintiff [Philip Hoyland] ever informed you that the machines that he designed and built for the Beam Ray were not operating on the same frequencies as your own?"

**RIFE:** "They were supposed to be operating on the same with harmonics."



**COMPARET**: “Did he ever tell you that there was a fundamental difference?”

**RIFE**: “He said on one or two occasions that there was a difference in harmonics.”

**SAPIRO**: “You say that the devices that were being built in the early part of 1938, the one that went to Dr. Couche and two that were in the lab were built on new harmonics?”

**RIFE**: ““They were built on a different principle, we have a given wavelength and it can be produced in different ways, but it should be the same no matter how it is produced.”

**SAPIRO**: “You knew that these machines were being built with that machine.”

**RIFE**: “Yes”

Philip Hoyland when he was on the stand was asked ([Beam Ray Trial #935-938, 953-958](#)):

**COMPARET**: “I understand you say that the frequencies used in the machines put out by the corporation were not set to the same frequencies as Dr. Rife’s machines [Rife Ray #4].”

**HOYLAND**: “That is correct.”

**COMPARET**: “Did you inform the board of directors of Beam Ray that the machine you built was not the same as Dr. Rife’s?”

**HOYLAND**: “I had spoken to them about it.”

**COMPARET**: “Then it was during the period between September and November that you told Edwards at his home that the machines you were building were not putting out the same frequencies as Dr. Rife’s machines?”

**HOYLAND**: “Yes.”

**COMPARET**: “How did you explain that?”

**HOYLAND**: “In the summer of 1936 I designed a new machine, or rather I checked it there at the lab [The Beam Ray Clinical instrument]. I had designed it in Pasadena, and we tested it out then and the frequencies were not the same as on Dr. Rife’s machine.”

**COMPARET**: “Did you tell him how great the difference it was?”

**HOYLAND**: “I explained that there was quite a fundamental difference.” [Harmonic frequencies]

Comparet when asked a question by Judge Kelly made this statement. ([Beam Ray Trial #2673 & 2685](#)):

**COMPARET**: “Hoyland has said that the design and the frequencies of the machine itself is not that of a Rife Ray machine, and that the machine is in fact different. The company will have to have these machines junked, must draw up new designs according to Dr. Rife’s ideas, must have Dr. Rife ok these designs, etc...Dr. Rife is not going to be a party to a fraud, and if the machines we sell are not the true Rife machines they are a fraud.” (Beam Ray Trial Papers).

When Edwards was on the stand he stated. ([Beam Ray Trial #1384-1385](#)):



**COMPARET:** *“Did Mr. Hoyland tell you at any time in the fall of last year that the machines he was manufacturing for Beam Ray corporation operated on a principle fundamentally different from Dr. Rife’s machine?”*

**EDWARDS:** *“No, Mr. Hoyland told me at one time that Dr. Rife thought that he had the frequencies but he didn’t have them. [Here Edwards is talking about the Beam Ray Corporation instruments, not the Rife Ray #4 instrument because Philip Hoyland said, on the stand, that he gave the Rife Ray #4 frequencies to Dr. Johnson and Dr. Rife in 1935].” (Beam Ray Trial Papers).*

Philip Hoyland also stated this when he was on the stand. ([Beam Ray Trial #800](#)):

**HOYLAND:** *“Regarding the frequencies of the machine [Beam Ray Corporation Clinical instrument], you will remember me telling you that the frequencies used are not the same ones on the Rife machine [The Rife Ray #4]. They [Meaning the Rife Ray #4 frequencies] were in the upper bands [139,000 to 1,604,000 Hertz].” (Beam Ray Trial Papers)*

In a letter which he sent to Dr. Gonin in 1939, there are indications that Dr. Rife wanted the so-called harmonics removed:

**RIFE:** *“I spoke only Friday evening to a Mr. John Chamblin, a radio man now connected with Beam Ray Inc., about the redesign and building of a device according to the old Rife Ray principles; as the present instrument has been so deviated away from that old principle that it is nowhere near the same...those devices which you have are merely working on a harmonic and not a true frequency; and in our research on electronics, we definitely know that there is no possible way of controlling electrical harmonics of a frequency.” ([Letter from Dr. Rife to Dr. Gonin, May 14, 1939. Page 1 of 3](#)).*

We have just read a lot of trial testimony about how this Rife Ray #5 or Beam Ray Rife Machine worked on harmonic frequencies. Also, in the trial testimony, it is mentioned that these Beam Ray audio machines were tested in Dr. Rife’s lab to see if they would devitalize microorganisms. It was Philip Hoyland who made the tests using Dr. Rife’s organisms. These tests were also repeated again in Dr. Johnson’s laboratory in the summer of 1936. From the documents, we know that Philip Hoyland put a lot of work into this instrument and didn’t finish it until late 1936. Benjamin Cullen said Philip Hoyland spent a lot of time at the lab and stated the following in a taped interview in the 1950s:

**CULLEN:** *“Philip Hoyland was in there quite a lot...Hoyland developed some few items in the lab...Hoyland seemed to help quite a lot and he got into the bacteriology side with Rife a good deal because Rife had so much to work out...he finally got to the point where he [Dr. Rife] had to delegate some of the work.” ([John Marsh Rife CDs, CD 6 track 1](#)).*

In the Beam Ray Trial manuscript we also read the following. ([Beam Ray Trial #91 & 93](#)):

**COMPARET:** *“Were any experimental activities carried on in the lab?”*

**HOYLAND:** *“Yes.”*

From the trial, we learn that Philip Hoyland developed and tested his harmonic instrument in the lab. How could Philip Hoyland have tested it unless he put micro-organisms under the microscope? From the "Development of the Rife Ray" document we learned that:

*“During the fall of 1936 Dr. Couche of San Diego and Jack Free assistant to Commander Rife conducted a clinic with one of the frequency machines treating experimentally cases of carcinoma and senile cataract...” ([Development of the Rife Ray and use in devitalizing pathogenic micro-organisms](#)).*

From the trial papers, we learn that Philip Hoyland didn't tell Dr. Rife what frequencies he was using in the instruments. Dr. Rife thought the instruments we're using his frequencies (the upper band frequencies) but with harmonics because this is what Philip Hoyland told him. The information that we now have obtained from this original Rife Ray #5 or Beam Ray Clinical instrument shows that Philip Hoyland's instrument was working on Dr. Rife's principles and on his frequencies but in a different manner than Dr. Rife was lead to believe. This is the reason that the instrument worked so well. Philip Hoyland was still using Dr. Rife's principle of coordinative resonance but hid the truth from Dr. Rife to protect his own interest. Philip Hoyland was a businessman and Dr. Rife was not.

The fact that these tests were done along with the fact that these instruments were used by many doctors with incredible results show that this instrument which used audio frequencies modulated onto an RF carrier frequency did devitalize microorganisms. Though Dr. Rife did not like the method of harmonic frequencies that Philip Hoyland used it was pointed out in the trial that Dr. Rife knew there were changes. Dr. Rife also didn't think that these changes would make much of a difference as long as the instrument worked: ([Beam Ray Trial Transcript #2700](#)).

**SAPIRO:** *"Dr. Rife said that he knew there were changes made in his machine and that they were not changes that would make any difference. Dr. Rife is a genius but he didn't know how to put the machines in a form that could be used in offices of doctors. These machines are perfectly good, they are just the same as the [Dr.] Couche machine and the one that gave Mrs. Henderson such relief."*

It was only with the release of the [complete Beam Ray Trial manuscript](#) and other Rife documents; found in California a few years ago that we now know why Dr. Rife continued to have this style of an instrument built even in the 1950s. Though Dr. Rife originally did not like Philip Hoyland's Rife Ray #5 or Beam Ray Clinical design instrument, because of the use of harmonics, he later tested it in his laboratory and found it would work as well as his original instruments that did not use harmonics. We will quote the complete letter since all of this information is important:

**RIFE:** *"My first association with Dr. Yale came through an organization known as the Beam Ray Corporation. In order to acquaint you with the details of the formation of this corporation, I shall bring in a little background. My assistant at that time [1934] in the laboratory was Philip Hoyland whom I met through Dr. Milbank Johnson M.D., Medical Director for the Pacific Mutual Life Insurance Company. I considered Hoyland as a capable electronic engineer and brought him to my laboratory in Point Loma on Alcott Street, San Diego, Calif. Hoyland became associated with a promoter named Hutcheson and Dr. James B. Couche M.D. They came to me with the idea of forming the Beam Ray Corporation to manufacture and distribute the Frequency Instrument to the medical profession. I gave this considerable thought and came to the conclusion that if these instruments were manufactured and placed into the hands of legitimate and bonafide medical practitioners, my efforts, over a period of years would derive exceedingly more benefits, so I gave this corporation permission to manufacture these devices on two stipulated conditions (1) that they would adhere decidedly to the original basic principles of the Frequency Instrument and (2) that each Frequency Instrument would be thoroughly tested before delivery to determine its true devitalizing power and effect on pathogenic bacteria. And so they went ahead. Three instruments were built. The first two were shipped to England (unwired as Hoyland wanted a trip to England) and the third went to Dr. Hamer M.D. at the Paradise Valley Sanitarium and Hospital. Dr. Hamer was the superintendent there I believe. Hoyland was like many men with whom I have associated over a period of years. In a short time, he began changing the basic principles of these instruments according to his own ideas. About this time he became associated with Dr. Yale and Yale ordered and received another or the Fourth Frequency Instrument. Since I was out of the city of San Diego at the time, all of these devices were delivered without being tested by myself.*

*At a much later period, I called on Dr. Yale at 333 Plaza in San Diego which was the address of his clinic at that time and told him that I did not feel that the Frequency Instrument had been calibrated*

properly so that it would not work. In the interim, I became associated with another electronist by the name of Verne Thompson, of San Diego. Under my supervision, Thompson rebuilt Dr. Yale's Frequency Instrument which I tested in my research laboratory on pathogenic bacteria and the Frequency Instrument proved effective. Then later at different times, I had this instrument checked and found it lacking in its ability to devitalize anything. I later learned that Dr. Yale had ideas of his own and would have somebody change the Frequency Instrument to suit his individual whims. I will state here definitely that I have never been associated in any way with Dr. Yale outside of the interest that I have taken in some of the patients of Dr. Yale.” ([Letter written by Dr. Rife, March 22, 1958](#)).

This document shows that Dr. Rife, after the shutdown of Beam Ray Corporation, eventually tested Philip Hoyland's Beam Ray Clinical design and found that it would devitalize all the microorganisms it was tested on. This also confirms that Philip Hoyland's statement that he tested it out in the laboratory was a truthful statement.

With this information taken from the Rife documents we now know why Dr. Rife considered the Beam Ray Clinical machine his instrument and knew it worked. Add to this the fact that all of the doctors who used it had a great deal of success with this Rife Ray #5 or Beam Ray Clinical instrument design. This is why Dr. Rife, John Crane and John Marsh built this Rife Machine in the 1950s and called it the AZ-58. The only difference in the 1953 AZ-58 design was it only had a three-band switch which covered a lower audio frequency range. Other than this change the 1953 AZ-58 was a replica of Dr. Couche's and Dr. Tully's original Beam Ray machine. In a letter dated July 6, 1956, this fact was pointed out:

*“The Frequency Instruments used by Dr. Tully and Dr. Couche were built in 1938 and do not apply to this code. However, the Frequency Instrument currently built are a copy of these earlier Frequency Instruments and are labeled "For Investigational Use Only" at the present time.”* ([Application letter for approval of device in compliance with California Pure Drugs Act. Page 2](#)).

This information that we have just read which shows that the 1953 AZ-58 was a copy of Dr. Couche's machine has more importance than it appears. We will explain why. The 1953 AZ-58's audio frequencies, which were used, were 10 times lower than the audio frequencies used in Aubrey Scoon's instrument. This correlation is important because it shows a direct link to the original Beam Ray Clinical instrument built by Philip Hoyland. This correlation shows that Dr. Couche's instrument used audio frequencies 10 times higher than the 1953 AZ-58. It also shows that Aubrey Scoon's Beam Ray Clinical replica instrument is also a replica or copy of Dr. Couche's Machine. This information now ties all these instruments together and shows that the original audio frequencies which came from Philip Hoyland and used in the Beam Ray Clinical instrument were the same audio frequencies used in Dr. Couche's machine and Aubrey Scoon's machine. This information also shows that these original audio frequencies were later lowered and used in the 1953 AZ-58 built by Dr. Rife, John Crane, and John Marsh. Now we can understand why this letter showing that the 1953 AZ-58 is a copy of Dr. Couche's machine is so important. It ties all these machines together.

Since we now know the history of this instrument and that this instrument worked on Dr. Rife's frequencies we will go back to the harmonic method used by Philip Hoyland. From the documents that we have read we know that Hoyland's machine worked on harmonics. The problem with the Beam Ray instrument is it has to be built a certain way in order for it to work on the correct harmonics. It was from the analyzing of this original Beam Ray Clinical instrument that the mystery of how it worked was discovered. We will show how it worked after we read another important quote. Bertrand Comparet, Rife's attorney who eventually defended Dr. Rife against Philip Hoyland in the 1939 Beam Ray trial said this about Philip Hoyland's Beam Ray Clinical instrument:



**COMPARET:** *“Well, none of us know enough about it. Now, I remember at that time Rife saying that Hoyland had not used a simple straight forward circuit, as Rife had used, but he thought he had a short cut, through the use of harmonics and so on, and Rife had no faith in Hoyland’s circuit.”* ([1970’s Bertrand Comparet interview #28](#)).

This statement by Bertrand Comparet and all the quotes we have read sums up Dr. Rife and his Beam Ray business partner’s understanding of how this instrument worked on harmonic frequencies. Anyone can see that only Philip Hoyland knew how this machine really worked and he would not reveal the secret to anyone.

This confusion of how the instrument worked still remained throughout the building of the 1940's and 1950's Beam Ray replica instruments and even up until 2010. It appears from the Beam Ray Trial testimony that Dr. Rife and the other owners of Beam Ray Corporation really didn’t know how this instrument worked. The trial testimony shows that Philip Hoyland would not tell anyone in the Beam Ray Corporation the frequencies used with the Clinical instrument or explain how it worked on harmonics. John Crane and John Marsh who worked with Dr. Rife didn’t understand how it really worked either. If Dr. Rife had really known how it worked then he would not have allowed John Crane and John Marsh to have a variable RF carrier frequency in the instrument. Having a variable RF carrier, in and of its self, is not the problem. Having a variable RF carrier frequency would be a good thing as long as you also understand that the audio frequencies have to be correctly matched to the RF carrier frequency in order to produce Dr. Rife's higher harmonic M.O.R. frequencies. The problems came about because John Crane and John Marsh did not have this understanding. The reason why John Crane and John Marsh put a variable capacitor in the instrument was so that they could tune the RF carrier frequency in order to make the ray tube brighter. By doing this it also made it so they could change the RF carrier frequency from about 4.9 MHz to about 2.2 MHz. This change showed that they did not understand how the instrument worked. They mistakenly believed that the audio frequencies were the M.O.R.s. or the frequencies that would devitalize the microorganisms. They also mistakenly believed that the RF carrier frequency was not important. This belief shows without any doubt that they did not understand how the Beam Ray Clinical instrument worked. If they had really understood how it worked they would have never called any of the audio frequencies M.O.R.s.

At this point we need to explain a few things. Philip Hoyland had very good reasons why he wanted to hide how this new Rife Ray #5 machine worked. He became Dr. Rife’s Engineer in 1935 when he built the Rife Ray #4. In 1936 Philip Hoyland also began building the Beam Ray Clinical instrument that would be sold in 1938 by Beam Ray Corporation. Philip Hoyland was worried about keeping the original frequencies a secret because he felt people would try to steal their technology. This concern of Philip Hoyland’s was not unfounded because Mr. Parsons of the British Group did try to steal their instrument. From the trial transcript we learn they had no way to patent the instrument because everything they were doing was in public domain in regards to the frequency generating equipment. Even the frequencies themselves cannot be patented. Philip Hoyland felt that he had to come up with a way to keep anyone from finding out what the true frequencies were. So he built the instrument a different way using harmonics to hit the harmonic frequencies of the Rife Ray #4 and Rife Ray #3 Kennedy equipment. Until a genuine Beam Ray Clinical Rife Machine could be found and tested, we would never know for sure how Philip Hoyland generated and used the harmonics in his instrument. Even though we now know that Aubrey Scoon’s instrument is a Beam Ray Clinical replica no one knew for sure that it really was a genuine replica when he obtained it. This confusion and the lack of having the chronological history of when and what type of instrument was built made it very hard to find the truth.

Not only would Philip Hoyland not tell anyone how his instrument worked he also would not let anyone know the new frequencies he was using. Everything he did hid the frequencies. In the Beam Ray Trial manuscript we read that he always used a code to give the frequencies. This code would work with the dials. No digital readout was available in those days like we have today.

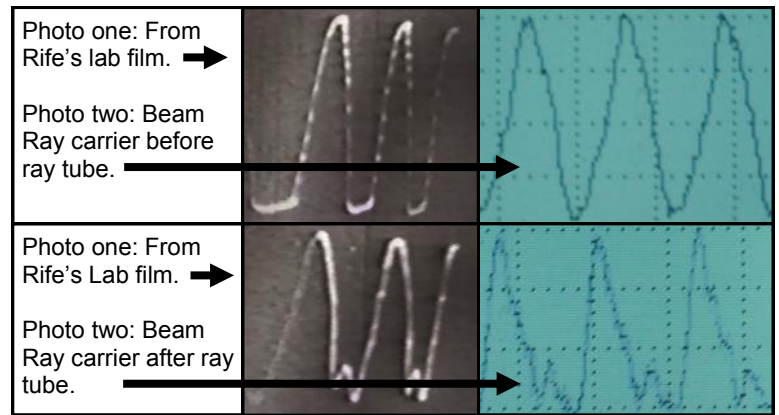
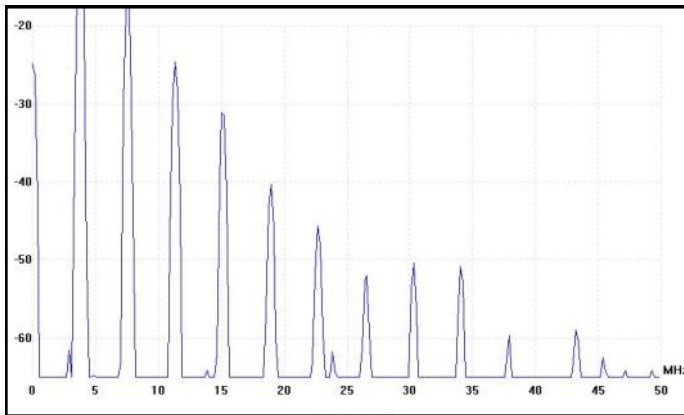
Since no one was ever given the frequencies from Philip Hoyland this has led to many problems. Some of the later Beam Ray Clinical instrument replicas have different audio frequencies and this also has led to a great deal of confusion. Even John Crane was sending people different audio frequencies other than the standard set he used with the 1953 AZ-58. Because of the different audio frequencies used in these Beam Ray replicas we really didn't know which set of audio frequencies Philip Hoyland really used. So it was not possible to use any of these frequency sets and come to any reasonable conclusions.

When we obtained this original Rife Ray #5 or Beam Ray Clinical Rife Machine, from Dr. Low, we had to put aside all the frequency lists and thinking of the past in order to figure out how the instrument worked. From everything we had read about Philip Hoyland's instrument, we had come to the conclusion that the answer would be found in the math. However, Hoyland came up with his idea it had to be a mathematical method. Like many others, we tried to reconcile the audio frequencies as lower harmonics of Dr. Rife's original high RF frequencies. But this proved not to be the case. We tested the frequencies that were used in Aubrey Scoon's Beam Ray Clinical instrument and they didn't match either as harmonics of Dr. Rife's original frequencies. We did the same with the AZ-58 audio frequencies and they didn't match. We took the other audio frequencies that Crane had a list of and they also didn't match. There is an instrument known as the 1947 instrument which we tried to reconcile with no success either. With all these audio frequencies only a few were close harmonic matches. If all these audio frequencies were true harmonics of Dr. Rife's original high RF frequencies then they should have harmonically match up, but they did not.

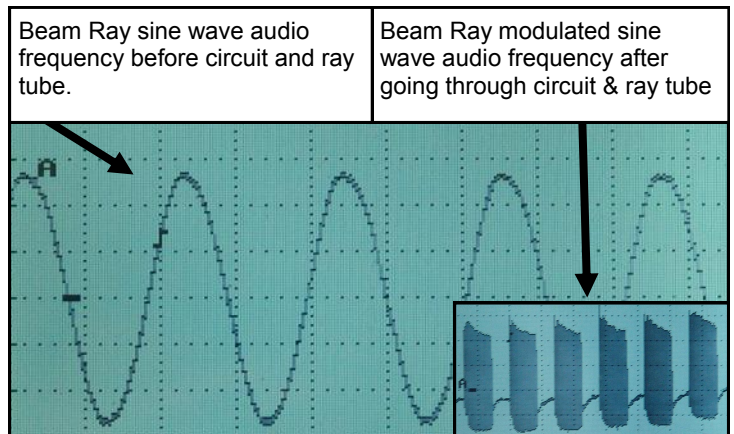
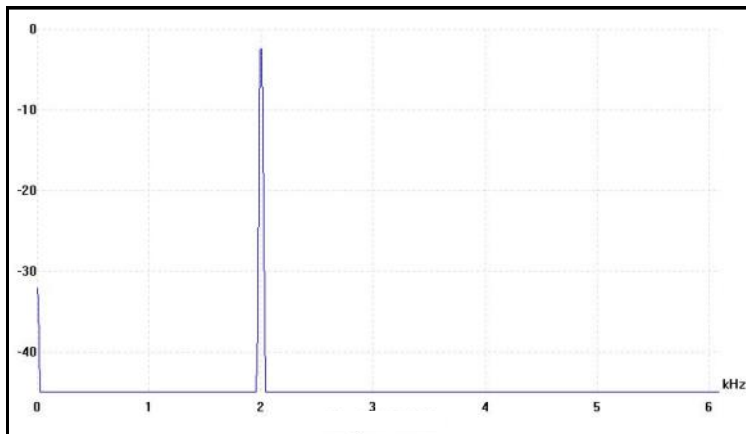
Once we put all this aside and began to analyze this instrument we found out how it worked. This Beam Ray Clinical instrument is truly a harmonic instrument and works on harmonic frequencies of Dr. Rife's original frequencies which he found. Philip Hoyland was telling the truth when he told Dr. Rife that the instrument was working on harmonics. The only thing was Philip Hoyland would not tell exactly how this was being done. The fact that both the audio frequency and the RF carrier frequency were sine waves did not make it easy to understand how it worked. How could it be a harmonic instrument when it used a sine wave waveform for both the audio and the RF frequencies? The 1953 AZ-58 Beam Ray Clinical replica worked on square wave audio frequencies and the harmonics came from the square wave waveform. But this is not how the Beam Ray Clinical instrument was supposed to work.

The 1950's square wave method has been used ever since the 1950s. But how can an instrument that uses sine wave audio frequencies be a harmonic instrument? With this understanding, we knew that the audio frequencies could never be the true M.O.R.s. But how did they work in the instrument to produce Dr. Rife's M.O.R.s? The harmonic square wave method has been an accepted method for many years. For many years almost everyone has understood and has generally accepted that you can take a square wave audio frequency and the harmonics it creates and hit a higher frequency M.O.R. through those harmonics. These audio frequencies are usually many hundreds of harmonic steps lower than the higher M.O.R. frequency. This harmonic method must be kept in mind as well as the fact that not once, but several times, in the Beam Ray Trial manuscript and other documents everything said about this machine showed that it was using the harmonic method. We must remember that Dr. Rife said that he believed that many of his frequencies were sub-harmonics of a higher frequency. He said if we knew the true higher frequency it may even work better. Because of how this instrument works it is logical to conclude that Philip Hoyland understood this concept and apparently found through testing that all of Dr. Rife's frequencies were sub-harmonics of higher frequencies. With this understanding, he built the Rife Ray #5 or Beam Ray Clinical instrument. Philip Hoyland was being truthful when he said that this machine was using harmonics. With all this knowledge from the Trial testimony and the Rife documents we now have a good understanding of the facts behind this new instrument design. Here is what we found when we analyzed the Beam Ray Clinical instrument.

The graph, below on the left, is of the harmonics from the 3.80 MHz RF carrier frequency coming out from the ray tube of our original Beam Ray Clinical instrument. It was taken using a PicoScope 3205 spectrum analyzer. The first photo, below on the right, with the black waveform, comes from [Dr. Rife's 1939 lab film](#). The photo to the right of that photo is an oscilloscope reading that we took of the waveform of the Beam Ray Clinical Rife Machine. You will notice the similarity of the waveforms. All the M.O.P.A. (Master Oscillator Power Amplifier designs used by Philip Hoyland) RF carrier waveforms we have tested look like this. When you put a non harmonic sine wave into a ray tube you will always see a distortion of the sine wave which will produce both odd and even harmonics through the ray tube. This is the reason the sine wave looks distorted.

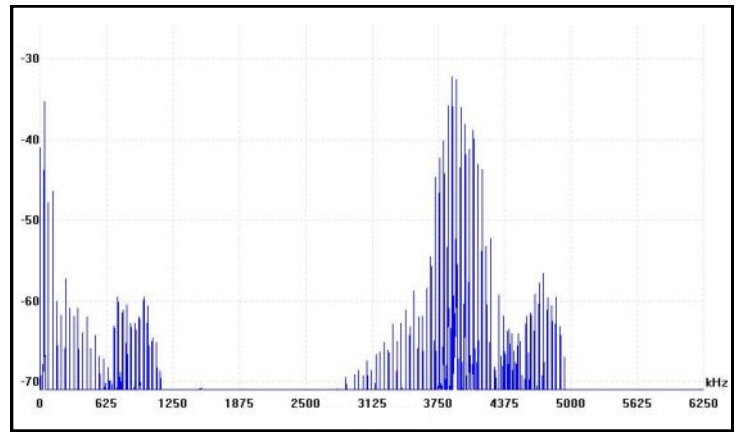
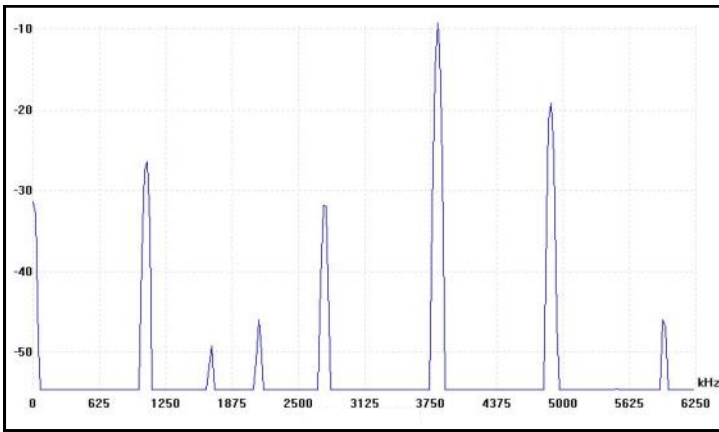


The graph, below on the left, is of a pure 2000 Hertz sine wave frequency. The oscilloscope photo, below on the right, shows a 2377 Hertz sine wave waveform coming from the audio oscillator of the original Beam Ray Clinical Rife Machine. The small photo shows it after it goes through the ray tube. You will notice that it almost looks like a square wave, but it is not. The circuit creates this waveform.

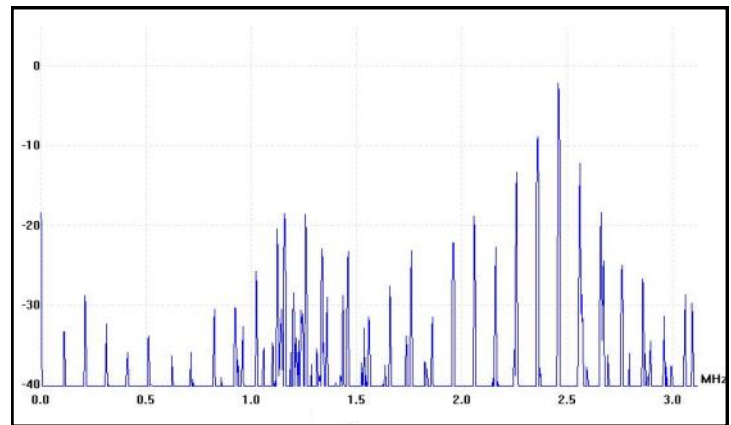
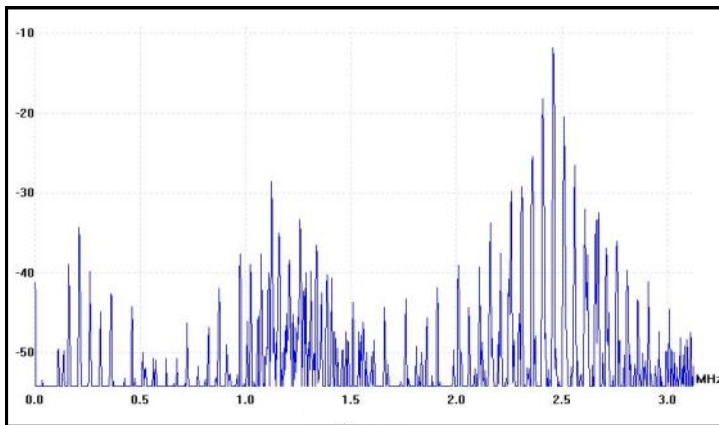


The next two graphs we will look at are at the top of the next page. The graph, on the left, was before modulation. The graph, on the right, during modulation. When we modulated 40,000 Hertz on a harmonic sine wave 3.80 MHz RF carrier frequency this is what the PicoScope spectrum analysis showed coming out of the ray tube. This was interesting to see. Not only did it create sideband frequencies 40 thousand Hertz above and below the harmonic RF 3.80 MHz carrier frequency but it created many harmonic sidebands every 40,000 Hertz. These harmonic sidebands covered a large frequency range of hundreds of thousands of Hertz.





Below are two more graphs showing a closer view of these sidebands that were created from one audio frequency. The graph, below on the left, is with a 50,000 Hertz sine wave frequency. The graph, below on the right, is with a 100,000 Hertz sine wave frequency. This was done with a harmonic sine wave 2.4 MHz RF carrier frequency so you can see a closer view of these sidebands. When we saw this we knew there was only one way this Beam Ray Clinical Rife Machine could work on Dr. Rife's frequencies and principles. We will now explain how Philip Hoyland's Rife Ray #5 or Beam Ray Clinical instrument worked using a fixed RF carrier frequency of 3.80 MHz and a variable audio frequency. Philip Hoyland knew from working with Dr. Rife that his frequencies or M.O.R.s. were sub-harmonics of true higher frequencies. Understanding this must have given him the idea of how to build the new Rife Ray #5 or Beam Ray Clinical instrument. If we also understand this concept, that all frequencies have lower and higher harmonic frequencies, is half the key to understanding how Philip Hoyland made this machine work. What Philip Hoyland did was multiply Dr. Rife's original M.O.R. frequencies up in harmonic steps until he had the highest harmonic frequencies closest to 3.80 MHz. From the Beam Ray Trial quotes, we know that Dr. Rife was told by Philip Hoyland that this Beam Ray Clinical machine was working on his frequencies with harmonics. What Philip Hoyland would not do is clarify exactly how it was working on harmonics of Dr. Rife's frequencies. Philip Hoyland also stated that his frequencies were not the same frequencies as Dr. Rife's frequencies. He was being truthful when he said this but what he would not reveal is the fact that his frequencies were exact harmonics of Dr. Rife's frequencies.



To clearly explain how Philip Hoyland used Dr. Rife's frequencies to come up with his new frequencies which were to be used in the Rife Ray #5 or Beam Ray Clinical instrument we will use the Rife Ray #4 frequency for Streptothrix as an example. That frequency was 192,000 Hertz. Philip Hoyland multiplied 192,000 Hertz by 20 times which will give you the 20th harmonic frequency at 3,840,000 Hertz. Since the RF carrier frequency of the Beam Ray Clinical instrument was fixed at 3,800,000 Hertz the difference would only be 40,000 Hertz between the two frequencies. This method of multiplying Dr. Rife's frequencies up in harmonic steps and using those frequencies was an ingenious method used by Philip Hoyland. Even though this was an igneous method it is only half the mathematical equation. The second half of the mathematical equation is probably even more ingenious than the first part.

Philip Hoyland then put into this Beam Ray Clinical instrument an audio oscillator. We must keep in mind that none of Dr. Rife's frequencies that were transferred from the Rife Ray #3 to the Rife Ray #4 and then to the Rife Ray #5 or Beam Ray Clinical instrument were audio frequencies. The audio oscillator was put into this instrument to accomplish the second half of the mathematical equation. Using the audio oscillator all Philip Hoyland had to do was use an audio frequency of 40,000 Hertz. The 40,000 Hertz frequency would then create what are called sideband frequencies. These sideband frequencies would be created by the 40,000 Hertz both above and below the RF carrier frequency being used. The first upper sideband frequency would then be 40,000 Hertz above the RF carrier frequency and hit the harmonic M.O.R. frequency of Streptothrix at 3,840,000 Hertz. This method of using sidebands was the second half of the mathematical method used by Philip Hoyland in this Beam Ray Clinical instrument. Now for further clarification of these sidebands, as shown in the photo on the previous page, which extends out many times above and below the RF carrier frequency depending on the audio frequency which is used. They are like pickets on a fence and every picket represents a harmonic sideband created from the audio frequency. These harmonic sidebands are part of the harmonics that the Rife Ray #5 or Beam Ray Clinical instrument used. So Philip Hoyland took Dr. Rife's frequencies and multiplied them up in harmonic steps as close as he could get them to the fix 3.80 Megahertz RF carrier frequency. Then these new higher harmonic frequencies of Dr. Rife's original frequencies then became Philip Hoyland's new M.O.R. frequencies which he would not reveal to Dr. Rife or any of his Beam Ray Corporation partners. Next, he then used harmonic sidebands to hit those new higher frequencies.

Though Philip Hoyland's new frequencies were harmonic frequencies obtained from Dr. Rife's original frequencies they did not create harmonics in the Beam Ray Clinical instrument. The harmonics came from the RF carrier frequency and the harmonic sidebands created from the audio frequencies, which Philip Hoyland used. By using both of these methods combined into an instrument Philip Hoyland could then say that the Rife Ray #5 or Beam Ray Clinical instrument was a harmonic instrument capable of outputting Dr. Rife's frequencies. His method was truly a harmonic method but he kept it as a secret from Dr. Rife and the other owners of the Beam Ray Corporation. The sideband method that Philip Hoyland used was the new cutting edge of electronic technology back in 1936. There would be very few people who could understand what Philip Hoyland was doing unless it was fully explained to them as we have explained here.

We will now explain Philip Hoyland's method further so that there can be no misunderstanding. But first what needs to be pointed out here is this IMPORTANT fact which came from the analyzing of this Beam Ray instrument. Neither the harmonic 3.80 MHz RF carrier frequency nor the audio frequencies will do anything by themselves. But when the harmonic 3.80 MHz RF carrier frequency and the audio frequencies are combined together they will produce many sideband frequencies. And one of these sideband frequencies will line up with the true higher harmonic Rife M.O.R. frequency and devitalize or render harmless the harmful microorganism. To re-emphasize this so that no one misunderstands. If you just use the audio frequencies by themselves you will get nothing. If you just use the 3.80 MHz RF carrier frequency without the audio frequencies you will get nothing. The audio frequencies used in this instrument must have the RF carrier frequency of 3.80 MHz or they will not produce Dr. Rife's frequencies. This is the reason the 1953 Beam Ray Clinical instrument called the AZ-58 did not work properly. In that instrument they were only using the audio frequencies without correctly matching them to the RF carrier frequency. In other words they were not using the sideband method that Philip Hoyland originally developed to be used in this style of instrument.

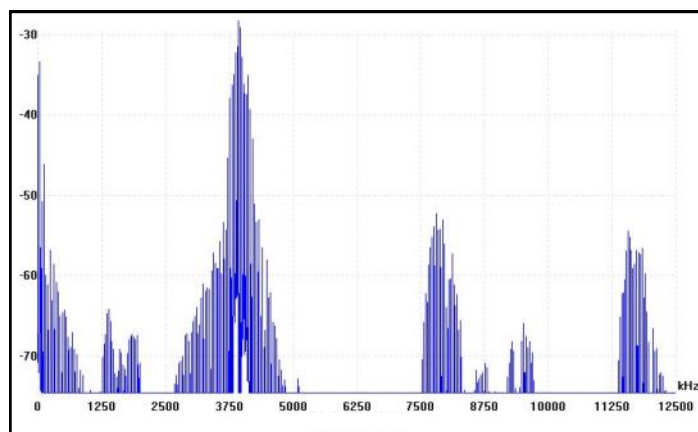
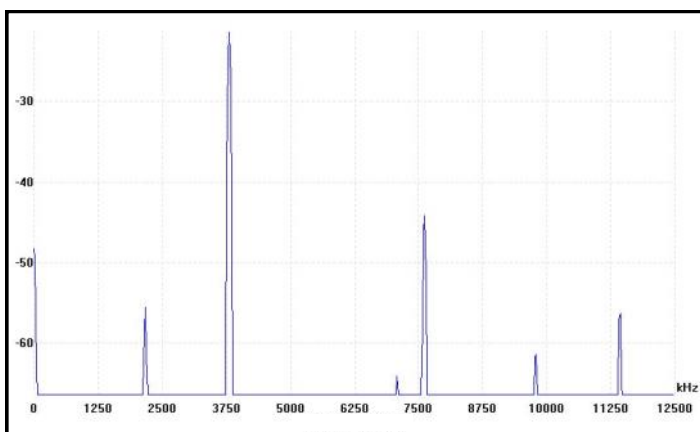
We know that Philip Hoyland was trying to hide the true M.O.R. frequencies of the organisms from anyone who used the equipment. Twice in the Beam Ray Trial, it was mentioned that Dr. Rife had no ability to patent the Rife Ray tube instrument. The only secret was the frequencies and Philip Hoyland was trying to protect his and Beam Ray's interests. The third and final secret that Hoyland used to hide the M.O.R. frequencies will now be explained. Keeping the harmonic sideband method in mind

Philip Hoyland could have just divided the 40,000 Hertz by two and used a 20,000 Hertz audio frequency. Then you would have one upper sideband at 3,820,000 Hertz and the second upper harmonic sideband at 3,840,000 Hertz. The 3,840,000 Hertz sideband would hit the 20th harmonic of 192,000 Hertz. Philip Hoyland could have divided it by three and used a 13,333 Hertz frequency. He also could have divided it by 4 and used a 10,000 Hertz frequency. If he would have divided it by five he could have used an 8,000 Hertz frequency. Divided by six he could have used a 6666 Hertz frequency.

We could go on but anyone can see the many variable frequencies that could have been used to create the correct sideband frequency. Also, because of the “one-tenth of one meter” factor that Dr. Rife mentioned you could add a few Hertz to each frequency without changing the frequency enough to make it so it would not work. This means you could change the 6,666 Hertz to 6,669 Hertz just to make things a little more confusing. By using this method Philip Hoyland could use many different audio frequencies to produce whichever number of sidebands he wanted to use. This would make it impossible to figure out which sideband was hitting the M.O.R. frequency that would devitalize the organism. By using this new method of using higher harmonic frequencies of Dr. Rife’s original frequencies and then using harmonic sideband frequencies Philip Hoyland was able to build a machine that would hide the frequencies from anyone. Philip Hoyland's method as anyone can see was ingenious.

We know that Philip Hoyland's method worked very well except that the technology of the mid-1930s did have a few drawbacks. Dr. Couche said that he had to sweep the frequency dial in order to get his instrument to work consistently. This is understandable since the 3.80 MHz RF carrier frequency will wander in a sweeping motion of five hundred to one thousand Hertz up or down from the fixed RF carrier frequency. The audio frequency oscillator also varied. Bertrand Comparet in his 1970's interview said this about the Beam Ray Clinical instruments inherent frequency drift:

**COMPARET:** *“Well, as they warmed up they’d shift frequency...Now, whether this was Hoyland’s inability to do better, or whether it was just inevitable in those days, I don’t know, but Hoyland’s devices did have that frequency shift as they warmed up. So, they had their problems. Now what Couche did, see, he would have cases where he would get an instantaneous cure, like that, and other times when the treatment just didn’t produce any results, because of the frequency shift. So, he would start in, he had from Rife (Hoyland dial settings) a set of the frequencies for several different diseases and he would tune it deliberately to one side of that frequency and then gradually tune it across to the other side making sure that somewhere in the process he crossed the correct frequency, even if the instrument wasn’t exactly in tune anyway. Well, when they hit the exact frequency they got amazing results.”* ([1970’s Bertrand Comparet interview #10](#)).



Again if you look at the first graph, above on the left, you will also notice that there are harmonic frequencies created from the 3.80 MHz RF carrier frequencies at 7.60 MHz and 11.40 Megahertz. These sideband frequencies as shown in the above graph, on the right, are created not only for the 3.80 MHz RF carrier frequency but its entire harmonics. These harmonics continue all the way up to about



12 MHz with reasonable power. This creates an interesting effect and shows that all the harmonics of 192,000 Hertz are being hit over the whole spectrum of about 12 Megahertz. This is probably why this Beam Ray harmonic instrument worked as well as it did when they hit the correct frequency. This Rife Ray #5 or Beam Ray Clinical machine was definitely a harmonic instrument as Philip Hoyland had stated. It may have even exceeded Philip Hoyland's original concept.

Now going back to the audio frequency method of creating the sidebands that Philip Hoyland used. No one could ever determine the 20th harmonic frequency of 3,840,000 Hertz or the original Rife Ray #4 frequency of 192,000 Hertz using this method. The secret of the Beam Ray Clinical instrument and the frequencies that would devitalize the microorganisms could never be figured out unless you had the original Rife Ray #4 frequency of 192,000 Hertz. Only a spectrum analysis of this instrument made it possible to figure out what Philip Hoyland was doing. Without this modern technology, a person would have to be very knowledgeable about how frequencies and their harmonics worked.

The fact that it has taken this long, almost 75 years, to figure out how this Rife Ray #5 or Beam Ray Clinical Rife Machine worked is proof enough that the secret was well hidden. As pointed out earlier, Philip Hoyland would never tell anyone how this instrument really worked. If anyone changed the 3.80 MHz RF carrier frequency then the audio frequencies would not work. New audio frequencies would have to be calculated to match the new RF carrier frequency. Also, Philip Hoyland could have changed the audio frequencies any time he wanted for any machine in order to confuse anyone who had the equipment. Since the instrument that we obtained from Dr. Low is an original Beam Ray Clinical instrument then one would assume that its 3.80 MHz RF carrier frequency is the carrier frequency that was used with all the Beam Ray Clinical instruments. But we know that this is not the case because they used a different carrier for other machines. None of the audio frequencies used in all the replica instruments from the 1940's to the 1953 AZ-58 match up to the 3.80 MHz RF carrier frequency. With this understanding we also have to assume that the audio frequencies used in this original Beam Ray Clinical instrument were different than the 1940's and 1950's instruments. Aubrey Scoon's instrument had a 3.30 MHz carrier frequency so if his machine is a replica of one of the original machines, which it is, then the audio frequencies would logically have to be matched to its 3.30 MHz carrier frequency, which they are.

The 1953 AZ-58 technical data shows that it used a 4.68 MHz RF carrier frequency. But when the variable capacitor was put into the AZ-58, in about 1956, the carrier frequency then became variable. This made it so Dr. Robert P. Stafford could change the RF carrier frequency to different carrier frequencies. In Dr. Robert P. Stafford's ["Electromagnetic Field Therapy"](#) report he said the following about the carrier frequency they used on his patients with the 1953 AZ-58:

**DR. STAFFORD:** *"Radio Wave transmission is used as a carrier wave. We use between 3100 KC [3.10 MHz] and 3300 KC [3.30 MHz] (This does not appear to be a critical value). The carrier wave is modified with specific cycles per second modulations. We believe that the CPS [audio frequencies] is a critical value and it actually may prove to be the most important factor which this research may offer."*

You will notice that Dr. Stafford did not think that the RF carrier frequency was critical. He clearly states that they believed it was the "CPS" or cycles per second of the audio frequencies which were the most important part of making the AZ-58 work. If the AZ-58 was going to work on the sideband method that Philip Hoyland developed then the RF carrier frequency and the audio frequencies had to be correctly matched. John Crane and John Marsh at this time also did not think that the setting of the carrier frequency was important to make the instrument work properly. Dr. Stafford would have gotten his understanding from them. We now know that the proper setting of the carrier frequency was important. The audio frequencies used with the AZ-58 should have been recalculated to match its 4.68 RF carrier frequency because its carrier frequency was different than Aubrey Scoon Beam Ray replica instrument carrier or our original Beam Ray Clinical instrument carrier frequency. When the math is done to check

the sidebands with the audio frequencies that were used with the AZ-58 it shows that those audio frequencies will not create the correct sideband spacing which will match up to the harmonic Rife Ray #4 frequencies. This is probably why Dr. Robert P. Stafford could not get the AZ-58 to devitalize any of the microorganisms he was testing in the laboratory. Here are two of his statements:

**DR. STAFFORD:** *“Please excuse my format in the following letter for I intend to ramble a bit and forget strict grammatical dictum. I am writing you at this time partially because John Marsh informs me in a recent letter that you may be somewhat disheartened or at least worried about your role in the experimentations with the Rife Machine. Believe me, Dr. Edward I know how you feel for I too have been through this same feeling with this matter. I have observed clinical results after treatments with this gadget which I can scarcely believe myself. Yet, despite these good results, I have been confused by some rather simple failures such as a recent experiment which I conducted at Good Samaritan Hospital where we used the machine to treat some cultures of Staph Aureus and Strept. Fecalis. In this work, we failed to inhibit growth at all or influence the cultures with the Rife Rx. I sent the results to John Marsh and asked for clarification and to be very frank I am not satisfied with John’s excuse of the failure as described by Dr. Rife. I am afraid I’m not a very good apostle for I’m getting some ideas myself on how this thing may work. I really wonder if this ultrasonic kills bacteria and virus at all or does it work like other forms of ultrasonic and merely stimulate the tissue in some unusual manner thereby improving the circulation and secondarily enhancing the body’s defenses against infection...To summarize some of this rambling: I feel that the Rife Ultrasonic Therapy has a very definitely beneficial effect on the human (and canine) body...I furthermore feel that we, as doctors of medicine, using this machine must remain constantly alert to the condition of our patient and vary the Rx as indicated.”* ([Dr. Stafford letter to Dr. Jeppson April, 1 1958](#)).

**DR. STAFFORD:** *“As yet, we have failed to “cure” any case of advanced, terminal malignancy. It appears in several instances that we may have impressed the disease favorably, temporarily. It is difficult to rule out the psychological, morale booster effect to the terminal patient when some definitive effort is made again in his behalf. However, several improvements have appeared to be more physical than emotional...All the patients in the series were treated with the same frequencies (e.g., 728 - 784 - 880 - 2008 - 2128). Perhaps these frequencies may be wrong, or only nearly correct.”* ([John Marsh Collection, Dr. Stafford’s Report on using the AZ-58, page 4, www.rife.org](#)).

If the incorrect audio frequencies were used with the 3.10 MHz to 3.30 MHz RF carrier frequency what Dr. Stafford M.D. reported is exactly what would have happened. From Dr. Stafford’s statement, we know that he did not think the RF carrier frequency was critical. If Dr. Rife had fully understood how Philip Hoyland had designed the instrument he would have never allowed John Crane or John Marsh to put a variable capacitor in its circuit without recalculating the audio frequencies for the new RF carrier frequency they wanted to use. Also, they would not have lowered the original audio frequencies by a factor of 10 times and used them. The AZ-58 would have had a new set of audio frequencies correctly match to the new 4.68 MHz RF carrier frequency it was originally given in 1953. The new set of audio frequencies would then have been the correct audio frequencies that would create the proper sideband spacing. Dr. Rife would have also made sure that Dr. Stafford knew that the carrier frequency was critical. If John Crane and John Marsh really understood how this instrument worked they never would have wanted to change the 4.68 MHz carrier frequency. The 4.68 MHz RF carrier would have been a good carrier frequency if they would have used the correctly matched audio frequencies.

It is obvious they never really understood how the instrument worked or how the audio frequencies interacted with the carrier frequency to produce the M.O.R.s. which would devitalize the organisms. They, like us, were under the false belief that the audio frequencies they were using were the M.O.R.s. They unknowingly promoted this idea because Philip Hoyland would never tell anyone how the instrument worked. We know that Dr. Rife knew that this Beam Ray Clinical machine somehow

worked on his frequencies with harmonics but it is apparent that no one but Philip Hoyland really understood how the instrument worked on the harmonic sideband method.

With the new variable capacitor that John Crane and John Marsh put into the AZ-58, they could change the RF carrier frequency from about 2.40 MHz to about 4.90 MHz. Dr. Stafford told me personally, when I talked to him, that it did not make any difference which carrier frequency he used, they all worked the same. We will probably never know the full story of how these mistakes were made but it is obvious that no one but Philip Hoyland had the proper understanding of how the instrument worked. Since the AZ-58 used the square wave harmonics method rather than the harmonic sideband method it would have been better if Dr. Rife, John Crane, and John Marsh had used a true lower harmonic frequency of the Rife Ray #4 frequencies, but they didn't. Using the correct sub-harmonic audio frequencies derived from the higher Rife Ray #4 RF frequencies would have been a better approach. Those Rife Ray #4 sub-harmonic audio frequencies used with the square wave harmonics method, probably would have worked better than the incorrectly match 1950's audio frequencies they were using in the AZ-58. We should do the same today with our frequencies.

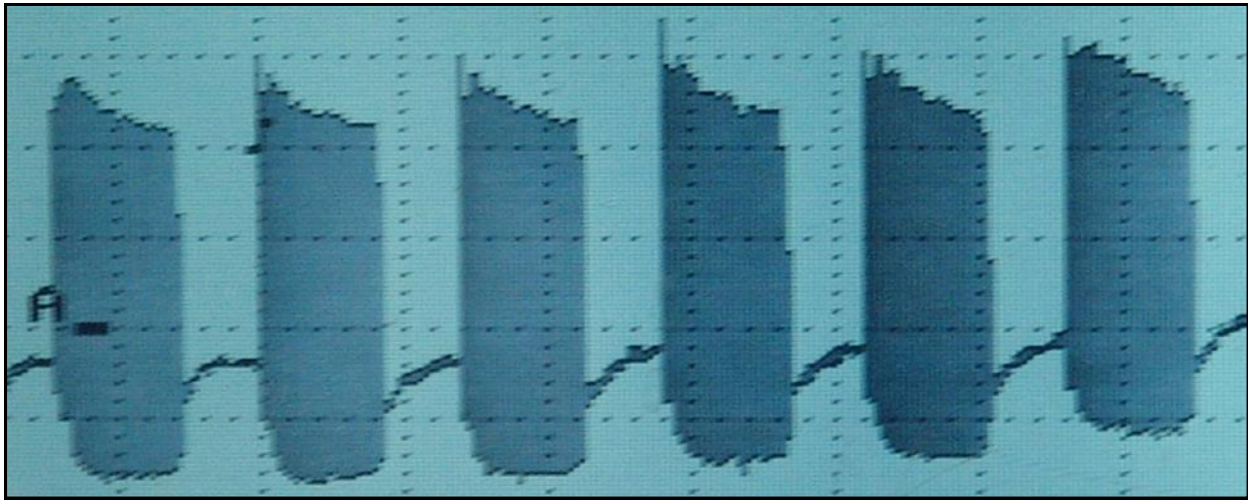
All that we have discovered with the analyzing of this original Rife Ray #5 or Beam Ray Clinical instrument reveals that the audio frequencies used with this equipment are not Dr. Rife's true M.O.R.s. They are just the frequencies needed to produce the proper sideband spacing in order to hit the correct higher RF harmonics of Dr. Rife's original M.O.R. frequencies. If the audio frequencies were the frequencies that would devitalize the microorganisms then logically all Dr. Rife's frequencies would have been audio frequencies, but they are not. If these audio frequencies were Dr. Rife's true M.O.R. frequencies then an RF carrier frequency would not have been needed and he would have never even needed to build a Ray Tube instrument. Dr. Rife would have been able to do all of his work with a simple frequency generator that would have had a frequency range of only about 25,000 Hertz. But this is not the case. Dr. Rife always said that almost all his frequencies were in the upper bands which match the Rife Ray #4 frequencies which covered a frequency range from 139,200 Hertz to 1,604,000 Hertz. None of those Rife Ray #4 frequencies were audio frequencies.

It is interesting to note that this Rife Ray #5 or Beam Ray Clinical instrument did not have a dedicated fixed audio pulsing circuit. This is also the case with the 1953 AZ-58. Aubrey Scoon mentions a sixty Hertz feedback pulse into the circuit of his instrument but he could not determine if the instrument was intended to work this way or if it was just a malfunction. When we built his instrument we could not get our instrument to work in the same manner as his did in producing this feedback, therefore we believe that it most likely was malfunctioning and was not intended to work in that manner. Since this original Rife Ray #5 or Beam Ray Clinical Rife Machine that we obtained didn't work in this manner either and none of the other replica instruments work this way we believe that our conclusion is correct.

We know that Dr. Rife's high RF frequency instruments such as the Rife Ray #3 and Rife Ray #4 used a fixed audio frequency pulsing circuit. This fixed audio frequency modulated the high RF frequency and was used to devitalize the organism. We have shown already in this report that this pulsed waveform was needed to devitalize the various microorganisms that Dr. Rife tested. The Beam Ray Clinical instrument did not use this circuit. The logical reason why it did not use this circuit is the modulated waveform created from the variable audio oscillator must have been sufficient to create the effect. The variable audio frequencies, which created the sidebands, would also pulse the waveform and this must have been sufficient to accomplish the same result. From this, we can conclude that all that is needed is a modulated or pulsed waveform with the proper M.O.R. high RF frequency to devitalize microorganisms.

In the photo, shown below on the next page is the Rife Ray #5 or Beam Ray Clinical instrument waveform. It looks almost like a modulated square wave waveform but it is not produced with a square wave. This waveform is produced using a sine wave audio frequency.





The Beam Ray instrument uses sine wave audio frequencies modulated onto a sine wave RF carrier frequency. It is the unique design of the Beam Ray Clinical circuit that produces this waveform. The M.O.P.A (Master Oscillator Power Amplifier) circuit that Philip Hoyland used was built in a different manner than would normally be used. Instead of using one vacuum tube for the RF oscillator section and a second vacuum tube for the amplifier section he only used one vacuum tube for both sections.

Because he used only one vacuum tube the circuit over oscillates and shuts off for half of the cycle. This shutting off for half of the cycle makes the waveform look almost like a square wave. This new waveform replaced the damped wave waveform that was used in the Rife Ray #4 instrument. In the 1953 AZ-58 Beam Ray Clinical instrument, the variable sine wave audio oscillator was replaced with a variable square wave audio oscillator. Had they really understood how the AZ-58 instrument was really supposed to work on the harmonic sideband method they probably would not have made this change. Changing the waveform from the sine wave to square wave did not change how the harmonic sidebands worked in the AZ-58. It only shaped the waveform in a true square wave waveform. The only real change that could affect the output of the instrument is not matching the audio frequencies with the new 4.68 MHz RF carrier frequency. It was this change that proved to be the biggest mistake they made.

What must be kept in mind is the treatment frequencies were not the audio frequencies in the original Beam Ray Clinical instrument. It was the sideband frequencies created by the audio frequencies when match and combined with the 3.80 MHz RF carrier frequency that would create the M.O.R. treatment frequencies. We tested both sine wave and square wave with the spectrum analyzer and there was no change in the sidebands. But in the 1950's they were under the false assumption that the audio frequencies were the treatment frequencies.

## Variable Audio Frequencies

Now we will discuss the variable audio frequencies used in the Rife Ray #5 or Beam Ray Clinical instrument. When we figured out how this instrument worked on harmonic sidebands we did not choose the optimum audio frequencies. We just used audio frequencies that would show how the instrument worked. There are better audio frequencies that could be used for optimum performance to hit the Rife Ray #4 higher harmonic frequencies. In order to determine the audio frequencies that were used to create the sideband spacing frequencies we first had to determine the difference between the 3.80 MHz RF carrier frequency and Hoyland's new higher harmonic M.O.R.s. which were derived from Dr. Rife's original frequencies. In order to make it easier for the reader to understand the difference between the RF carrier frequency and Dr. Rife's higher harmonic radio frequency, it will be called the "difference number" in this report. In most cases, we divided the "difference number" by 5, but the BX was divided by 15. The BX M.O.R. higher harmonic frequency, based on the Rife Ray #4 frequency, is

3,208,000 Hertz. This frequency is only the second higher harmonic of the Rife Ray #4 frequency of 1,604,000 Hertz, so it will still work just as well as all the other frequencies.

A person must keep in mind that the modern square wave audio frequency harmonics are projected to hit frequencies hundreds of harmonics up. This Beam Ray instrument has far more power in its harmonic sidebands than any square wave harmonic has in it. And the Beam Ray instrument only has to go to the 15th lower sideband to hit the BX M.O.R. frequency, not hundreds of harmonics like a square wave harmonic would. This Philip Hoyland method would be far superior to using low square wave audio frequencies since the harmonics would all be 40 harmonic steps or less.

So that you can better understand how this instrument worked we need to determine what RF carrier frequencies would be best to use with this Beam Ray Clinical instrument. Philip Hoyland would have also done these calculations back in the 1930s. The best RF carrier frequencies to use would always be calculated based on Dr. Rife highest original M.O.R. frequency. As an example, the highest frequency that Dr. Rife used in the Rife Ray #4 was the BX cancer virus frequency of 1,604,000 Hertz. The best RF carrier frequency would be this 1,604,000 Hertz frequency multiplied by two which would be 3,208,000. So an RF carrier frequency in the 3.10 to 3.30 Megahertz range would be a good RF carrier frequency range. Dr. Couches' Rife Ray #5 or Beam Ray Clinical instrument, built by Philip Hoyland, used an RF carrier frequency of 3.30 MHz and Aubrey Scoon's instrument which is a copy of it also used a 3.30 MHz carrier frequency. The importance of this 3.30 MHz RF carrier frequency will be discussed later. The next best carrier frequency would then be three times this frequency which would be 4,812,000 Hertz. So a carrier frequency in the AZ-58 4.68 MHz range would also work very well. By using Dr. Rife's highest M.O.R. frequency it is easy to see that the best RF carrier frequencies can be determined. We are sure that Philip Hoyland had this same understanding.

Some of the following information was originally part of Chapter 8 but after restudying the Rife documents we found that this information, including the additional documents we found, actually belonged in this chapter. This information confirms Philip Hoyland's use of higher harmonic frequencies obtained from Dr. Rife's original M.O.R. frequencies.

When Dr. Johnson and Philip Hoyland were testing the first proto-type of the Rife Ray #5 or Beam Ray Clinical instrument in the summer of 1936 they had an interesting effect take place. At that time they were at Dr. Rife's laboratory testing different bands of frequencies on the various microorganisms. Dr. Johnson wrote about what happened in a letter he sent to Dr. Gruner on November 4, 1936. He also sent a copy of that letter to Dr. Rife:

**DR. JOHNSON:** *"Last summer, in hunting for the M.O.R. for the other two reproductive forms of the cryptomyces pleomorphia, we ran into a new band of oscillations which introduced itself to us by killing all three forms - those that we called BX, our filter-passing form; then a transitional form such as you found in the monocytes in the blood; and then the third or highly developed form coming from the sporangium forming from the hyphae of the mycelium. At the same time that this new wave band arrived, we broke all the glass in the laboratory of a certain shape, not only in the room where we were working but in all the other rooms...we had been troubled a great deal with a mold because in the microscope room there were no windows, but this band not only destroyed that mold, which was growing on the leather objects in the room, but every bacteriological culture that we had in the laboratory! It cleaned us out completely so we had to start from scratch and replace our losses. In fact, we were all so surprised that we began to feel each other's pulses to see if we were still alive. As no harm had been done to us, we proceeded to test the new band out on mice, rats, rabbits, guinea pigs and dogs. So far as we were able to discover, it is not at all destructive or injurious to normal cell tissue. While we have been forced to modify our machine so as to produce this new band, still it is so much more effective clinically that we look upon it as a very advantageous discovery. However, our experience has forced us to do all of our experimenting with the new ray [Rife Ray #5 or Beam Ray Clinical instrument] completely outside*

*of our laboratory building or abandon all form of bacteriological experiments, because it instantly kills them all.*" (Letter from Dr. Johnson to Dr. Gruner (copy sent to Dr. Rife) dated, November 4, 1936. [Page 1, Page 2](#)).

Dr. Johnson clearly points out in this letter that this was done with a new Rife Ray. Dr. Johnson had been using the Rife Ray #4 since the fall of 1935 on his patients but here he points out that they were using a new Rife Ray machine and that it was clinically more effective than the machine he had been using up until this time. In the Beam Ray Trial documents Philip Hoyland stated that he had built a new Rife Ray instrument in the summer of 1936:

**HOYLAND:** *"In the summer of 1936 I designed a new machine, or rather I checked it there at the lab. I had designed it in Pasadena, and we tested it out then."* ([Beam Ray Trial Papers #956](#)).

Also in another document called "Development of the Rife Ray" we have supporting evidence that a new Rife Ray was built in 1936:

*"In the early part of 1936 Commander Rife and Mr. Hoyland spent much time collaborating on revising some of the applications of the fundamentals of the instruments due to the advancement that had taken place in the application of electronics and it was found that the carrier wave used in the previous instruments could be eliminated. During the summer of 1936 further experiments were carried on, which resulted in an entirely new method of generating the desired frequencies and produced a constant input and output in the instruments."* ([Development of the Rife Ray](#)).

With the Rife documents showing that Philip Hoyland built the new Rife Ray or Beam Ray Clinical instrument in the summer of 1936, we know that this was the machine that Dr. Johnson was referring to in his letter. In that letter, Dr. Johnson clearly states that during the summer of 1936 they had tested this new machine in his laboratory. Dr. Johnson's statement also confirms Philip Hoyland's statement given in the Beam Ray Trial documents that the machine was tested in the laboratory. The documents all support each other and show that it was the Rife Ray #5 or Beam Ray Clinical instrument that they were using which produced this amazing effect. In this same letter, Dr. Johnson stated, not once, but twice that this work was done with the new Rife Ray machine. Here is his other statement:

**DR. JOHNSON:** *"I can assure you that no one, not even myself, could help but be astounded at the results we are now obtaining with the assistance of our new machines and our new band of MOR's."* (Letter from Dr. Johnson to Dr. Gruner (copy sent to Dr. Rife) dated, November 4, 1936. [Page 1, Page 2](#)).

This letter was written in November of 1936 a few months after the laboratory testing was completed on this new Rife Ray machine. They now had built more than one of these new machines as pointed out by Dr. Johnson when he said "our new machines." Again Dr. Johnson points out that this is a new style of machine and it has a "new band of MOR's." In the Beam Ray Trial documents Philip Hoyland's complete statement reveals that he was using different frequencies than Dr. Rife:

**HOYLAND:** *"In the summer of 1936 I designed a new machine, or rather I checked it there at the lab. I had designed it in Pasadena, and we tested it out then and the frequencies were not the same as on Dr. Rife's machine."* ([Beam Ray Trial Papers #956](#)).

This statement made by Philip Hoyland about the frequencies not being the same as Dr. Rife's original frequencies is confirmed by Dr. Johnson. So Dr. Johnson's statement in his letter clearly shows that he understood that this new machine is using different M.O.R.s. than what Dr. Rife originally used in the Rife Ray #4. Dr. Johnson also points out that these new M.O.R.s are more effective than the



original M.O.R.s found by Dr. Rife. Today we now know that these new M.O.R.s. that Philip Hoyland was using were based on Dr. Rife's original M.O.R.s. They were just higher, more powerful, harmonics of Dr. Rife's original frequencies. From the Beam Ray Trial, we know that Philip Hoyland stated that the frequencies he was using in this machine were not the same as the frequencies that Dr. Rife originally found. This, however, does not change the fact that all Philip Hoyland did was multiply Dr. Rife's original frequencies up in harmonic steps to use them with this new Rife Ray #5 or Beam Ray Clinical instrument. Without Dr. Rife's original frequencies Philip Hoyland would have had nothing. Probably the most important fact is the higher harmonics seemed to work better at devitalizing the organisms. As mentioned before, Dr. Johnson indicates in his letter that this new machine works better than any of the previous machines they had used up until that time (Rife Ray #3 and Rife Ray #4). His letter also shows that he is very impressed with the results they were obtaining with it. Another important fact we learn from this letter is Dr. Johnson now had the M.O.R. for the cryptomyces pleomorphia fungi. He had been trying to get Dr. Rife to find this M.O.R. for many months, without success, because Dr. Rife had developed eye problems and could not use his microscope. But now he had the ability to produce its frequency with the new machine. Another thing that Dr. Johnson pointed out was the fact that they had killed all the bacteriological specimens in his laboratory with the new Rife Ray machine and that they had to use it outside of the laboratory or it would kill all the new replacement specimens they had to obtain. Dr. Johnson in this same letter to Dr. Gruner said the following about this new Rife Ray machine which Philip Hoyland built:

**DR. JOHNSON:** *"We are having a great time out here. I have opened a clinic in the Pasadena Home for the Aged and am having excellent luck. Of course, what I am trying to do is to experiment with the effect of the Rife Ray on bacteria in vivo. Our laboratory work has demonstrated pretty conclusively what it will do in vitro. The clinic is held three mornings a week, Tuesday, Thursday and Saturday. Yesterday I had eighteen patients. Among them were two cases of pulmonary tuberculosis, three cases of carcinoma, two cases of old chronic varicose ulcers of the leg, and sundry other cases of more or less definite infectious origins...I certainly wish that you were here to work with me because I am afraid that even you, who know what we are trying to do, will not believe some of the yarns that I would have to tell you as to what is occurring in the clinic without actually seeing them for yourself."* (Letter from Dr. Johnson to Dr. Gruner (copy sent to Dr. Rife) dated, November 4, 1936). [Page 1](#), [Page 2](#)).

Many people believe that Philip Hoyland's Rife Ray #5 or Beam Ray Clinical machine was somehow inferior to Dr. Rife's previous instrument's effectiveness in devitalizing microorganisms. But Dr. Johnson points out that this instrument was working better than any previous instrument they had used in the past. In another letter to Dr. Meyer, M.D. Dr. Johnson again talks about the effectiveness of this new Beam Ray Clinical machine:

**DR. JOHNSON:** *"I am conducting a very interesting clinic three times a week with the Rife Ray, treating about twenty-two patients a session, and we are obtaining much valuable information from our work. We are encountering many physical problems in the production of the Ray, the greatest difficulty being to obtain uniform results from the apparatus which we have. At times the results of the Ray are absolutely astounding, causing an instantaneous sterilization of the wounds whether interior or exterior. But owing to the slight changes in the temperature of the room and apparatus, the same setting of the dials does not give us the same output, and hence our results are unsatisfactory. However, we believe now that we have developed it to a point where we can very greatly diminish the errors in output and substantially increase the beneficial results or the effect of the apparatus."* ([Letter from Dr. Johnson to Dr. Karl F. Meyer dated, December 7, 1936](#)).

Even with the calibration problems with the instrument, Dr. Johnson was still impressed with how well the instrument was working. If Dr. Johnson only would have had the ability that we have today to measure the frequency correctly, rather than relying on dial settings, he would have always had consistent results. With modern technology, we can accurately measure a frequency regardless of any

changes that the climate may make. Dr. Johnson only had the dial settings to work with back in the 1930s. The limits of the 1930's technology would have given him the problems he talked about in his letter. Even with the limits of the 1930s technology, Dr. Johnson stated they had solved many of their problems with the instrument and this helped them to obtain even better results.

During this same clinic that Dr. Johnson was conducting, he was also using this new Rife Ray instrument on 30 cataract patients. In a letter that Dr. Johnson wrote to Dr. Joseph Heitger he stated the following:

**DR. JOHNSON:** *"I closed my clinic on May 28, having been running it for eight months. Our special effort this past winter has been working on cataracts, and while we have treated a number of other infectious conditions (if cataract is an infection), still our principal work has been on the eye. We have had about thirty cases of cataract...Every case that we have treated, with the exception of one which was a traumatic cataract where the lens was absolutely opaque and of recent origin, has been benefited...The application of the Rife Ray as we have used it, does, in the great majority of cases restore the full visual function of the eye; that is, that portion of the visual disturbance due to opacities in the lens. How it does it and why it does it, I do not know, but the above statement is an actual fact, supported by many cases...Oh Lord; How I wish we could get together and go over this work! I believe it will result in epochal changes in the profession's handling of cataract cases."* ([Letter from Dr. Johnson to Dr. Joseph D. Heitger dated, June 1, 1937](#)).

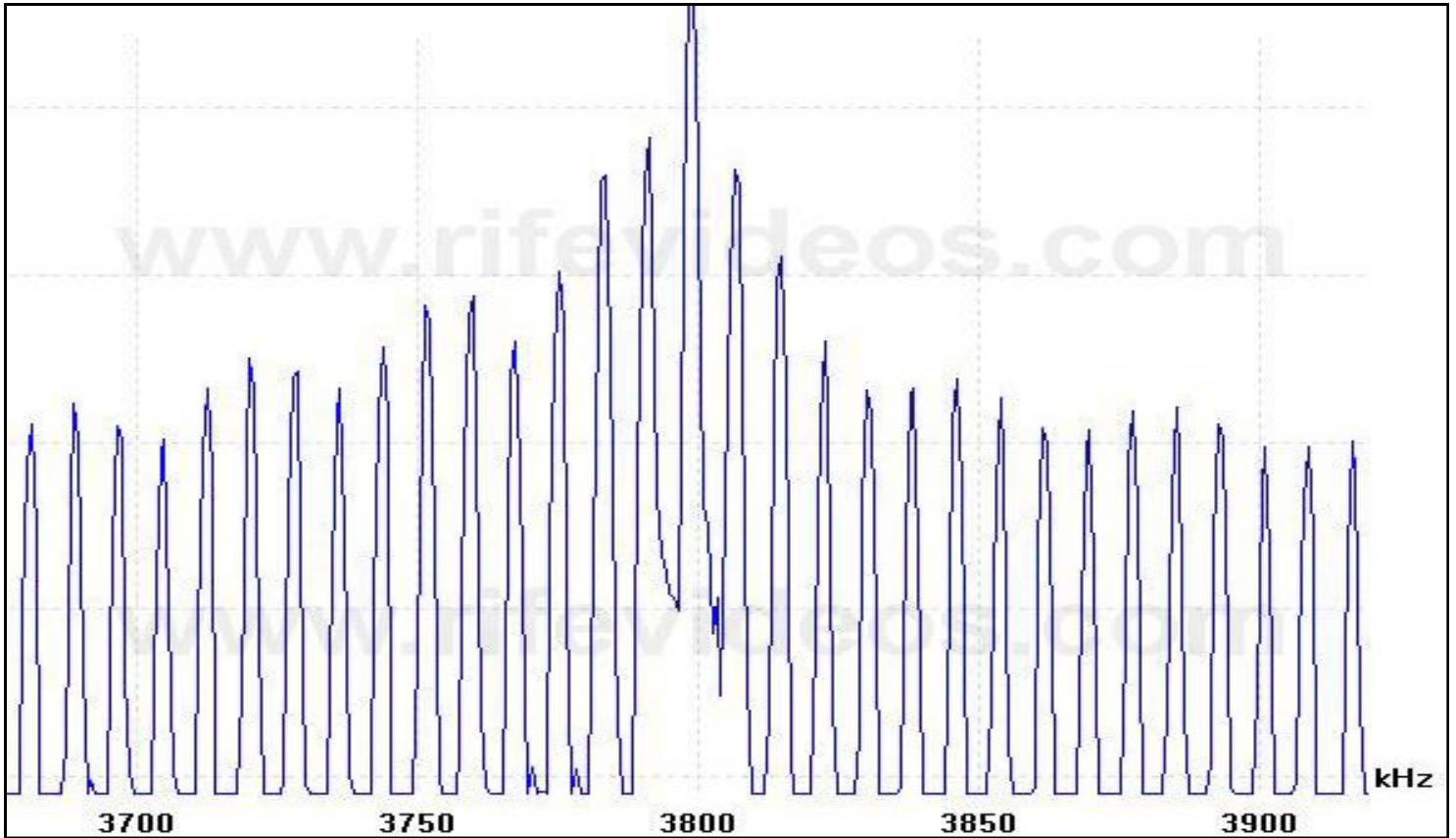
In this letter to Dr. Heitger, Dr. Johnson again points out how well this instrument worked. In this letter, he also talked about the calibration problems they were having with this new Rife Ray machine. The Beam Ray Clinical machine was known for its calibration problems. Even the Beam Ray Trial testimony and other documents show that this instrument had calibration problems. Eventually, Philip Hoyland divided the audio frequency range of the Beam Ray Clinical instrument into four bands. This helped but did not solve the problems completely. By the early 1940s, the audio oscillator was replaced by the new stable Hewlett Packard audio oscillator. This Hewlett Packard audio oscillator was far superior to the original RC (Resistor Capacitor) style audio oscillator used by Philip Hoyland. Had they had a modern frequency counter they could have easily solved any of the calibration problems they had. Today if anyone builds this instrument they would want to have the ability to check the RF carrier frequency so that they will have consistent results.

Next we will explain how this instrument had the ability to devitalize so many organisms as described by Dr. Johnson in his letter. He stated in his letter of November 4, 1936 that it was done using a "new band of oscillations." This happened at the time they were testing this new Rife Ray #5 or Beam Ray Clinical instrument at Dr. Johnson's laboratory. Since it was a proto-type machine we do not know what the original frequency range of the audio oscillator was when this happened. What we do know is the original Beam Ray Clinical instrument which we obtained from Dr. Low had four frequency bands which covered a frequency range from 160 Hertz to about 42,000 Hertz. Whether it was one of the lower bands or one of the higher bands we do not know. But this we do know, Dr. Johnson would have had this band put into the new instrument because he stated this:

**DR. JOHNSON:** *"While we have been forced to modify our machine so as to produce this new band, still it is so much more effective clinically that we look upon it as a very advantageous discovery."* (Letter from Dr. Johnson to Dr. Gruner (copy sent to Dr. Rife) dated, November 4, 1936).

This statement from Dr. Johnson leaves no question that this band of oscillations was included in the new Rife Ray machine which eventually became the finished product that was sold by Beam Ray Corporation. Why this new machine was able to kill all the organisms that Dr. Johnson talked about is easy to explain since we now know how this instrument worked. If you look at the spectrum analysis graph, shown below, you can see the many sideband frequencies created by a single audio frequency.

It has been said that a "picture is worth a thousand words." From this spectrum analysis graph of the Beam Ray Clinical machine, we know it produced many sideband frequencies simultaneously, sometimes over 100. This explains how this effect happened. Dr. Johnson did not say that it was a single frequency that killed the organisms. He stated that it was a band of frequencies. By the word "band", we know that they must have been turning the frequency dial of the audio oscillator looking for



a frequency that would kill the "two reproductive forms of the cryptomyces pleomorphia" organism. These two forms of this disease were found to be a factor in cancers and Dr. Johnson wanted the M.O.R. for these organisms. If the dial of this instrument was turned slowly, as they would have done, then they would have been sweeping the frequency. Even though you are only sweeping a single audio frequency you are also [sweeping as many as 100 harmonic sideband frequencies simultaneously](#) which were created by a single audio frequency. For example, we will explain how this works. It must be kept in mind that if you sweep an audio frequency in the Beam Ray Clinical instrument from 6000 Hertz down to 500 Hertz all of the RF sidebands produced from the RF carrier frequency will start with a distance of 6000 Hertz apart, and as you sweep down to 500 Hertz these sidebands will slowly close until they are only 500 Hertz apart. During this sweep, every frequency between these sidebands will be hit because these sidebands are also all going in towards the RF carrier frequency.

Not only are the sidebands closing and getting closer together but they are also moving in towards the RF carrier frequency completely overlapping each other. Both the upper sidebands and the lower sidebands produced by the audio frequency close in towards the RF carrier frequency. This produces a large broadband sweep, with these many sideband frequencies, that can cover up to a one Megahertz or one million Hertz frequency range. This instrument would be very advantageous to use on patients but in a laboratory setting it would be your worst nightmare because it could very easily kill all your specimens as described by Dr. Johnson:

**DR. JOHNSON:** *"experience has forced us to do all of our experimenting with the new ray completely outside of our laboratory building or abandon all form of bacteriological experiments, because it instantly kills them all."*



We know that Philip Hoyland used at least two different RF carrier frequencies, 3.80 MHz and 3.30 MHz, with his Beam Ray Clinical instruments. We also know from the Rife documents that Dr. Couche's Beam Ray Clinical instrument RF carrier frequency was set to 3.30 MHz. The audio frequencies went from 1200 Hertz for Tetanus to 21,275 Hertz for the BX Cancer virus. These audio frequencies produced the correct sidebands which hit the correct frequency for each organism. It is easy to understand that if all of Dr. Rife's frequencies for the various organisms are covered over this range from 1200 Hertz to 21,275 Hertz then a slow sweep over this range would cover all the organisms' M.O.R.s. or frequencies. It is also logical to conclude that any organism's frequency that is located between about 40,000 Hertz up to about 1.80 MHz it would also be hit at some point during this sweep. This is because any organism's frequency could be multiplied up in harmonics so that it would be as close to 3.30 MHz as you can get it. With this understanding, it would also be logical to assume that a sweep through that complete frequency range down to about 500 Hertz would cover all Dr. Rife's M.O.R. frequencies both known and unknown. Now some people wonder how the power could be distributed in the sidebands so that there would be enough power to devitalize the microorganisms. We will discuss the unique method Philip Hoyland used to distribute the power in the sidebands in Chapter 11. During the Beam Ray Trial, it was pointed out that Dr. Rife had found the M.O.R.s. for about 40 more organisms that were not included in the Beam Ray Clinical Machine. Here is that statement:

**HUTCHINSON:** *"There are about 40 frequencies discovered by Dr. Rife that have not yet been released to the public, and have not been included in the machine."* ([Beam Ray Trial Papers #1689](#)).

Those 40 frequencies could have been put into the Beam Ray Clinical machine had Dr. Rife understood how Philip Hoyland built the machine using the sideband method. Though they were never put into the instrument using a dial setting this does not change the fact that the instrument could output those frequencies. Since they probably all would have been within this same sweep range then it is reasonable to assume that this same sweep range would also hit all of these organisms' frequencies. This is why we said *"All Rife's M.O.R.s. both known and unknown."*

If you wanted to cover an even larger frequency range you could sweep from 40,000 Hertz down to about 100 Hertz. The mathematical calculations show that to hit each organism's M.O.R. with sufficient time a sweep should not cover more than 25,000 Hertz in 4 hours. One important fact that should be realized is when this sweep is done from 25,000 Hertz down to about 500 Hertz, or lower, each organism's frequency is hit more than 20 times. To understand how this is possible requires the understanding that when these sidebands close and move in toward the carrier frequency each organism's frequency is hit with multiple sidebands. To explain how this happens we will take the BX Cancer virus frequency of 21,275 Hertz as an example. It is the fourth lower sideband that first hits the BX Cancer virus frequency of 3,214,900 Hertz ( $1,607,450 \times 2 = 3,214,900$ ) when it hits 21,275 Hertz. The fifth lower sideband again hits 3,214,900 Hertz at 17,020 Hertz. The sixth hits it at 14,183 Hertz and the seventh at 12,157 Hertz. This continues until each organism is hit by more than 20 sidebands.

What we have just explained is probably why Dr. Johnson had the experience of this instrument killing all the organisms in his laboratory. Just a sweep through one of these four frequency bands with the Beam Ray Clinical instrument could wipe out a great many organisms because the sidebands would hit many of those organisms' M.O.R.s one right after another. This is because there can be nearly 100 sidebands generated at the same time.

The reason we did not make a schematic for this original Beam Ray Clinical instrument is due to the fact that Aubrey Scoon's Rife Ray #5 or Beam Ray Clinical replica schematic is available and will build the same type of instrument. Aubrey Scoon's instrument carrier frequency has been discovered even though his instrument was malfunctioning or had parasitic oscillations. He originally gave a 3.33 MHz carrier frequency using an 812a tube. Then he made the wrong assumption and used an 809 tube and replaced the 812a with the 809, but this did not eliminate the parasitic oscillations. The prob-

lem with the instrument malfunctioning is what made it hard to determine the true carrier frequency. Without having the correct RF carrier frequency it makes it very hard to verify the audio frequencies it used. Having done a lot of work with this style of instrument and knowing how harmonics can shift the carrier frequency we decided to test a 3.30 MHz carrier to see if it was the correct frequency it used. This 3.30 MHz carrier frequency would have been a more logical choice to use especially when it comes to making the correct sideband frequencies. The results of that decision will be shown later when we take a look at [Aubrey Scoon's 1940's \(actually 1950's\) Beam Ray Clinical replica instrument](#) built by Verne Thompson.

On the next page is a chart showing the “Rife Ray #4 Frequencies” with their “Higher Harmonic Frequencies” along with the “Carrier Difference Frequencies” and the “1/10 tenth Of One Meter” mentioned by Dr. Rife, converted to Hertz. Also included in this chart are the “Beam Ray Clinical Frequencies” which are audio frequencies that would work with the Beam Ray Clinical instrument. It also includes “Aubrey Scoon’s Frequencies” for a cross-comparison even though we have not yet examined Aubrey’s Beam Ray replica machine. After you have read about Aubrey Scoon’s instrument this information will be even more understandable.

You will notice in the chart on the next page that many of the Beam Ray Clinical instrument audio frequencies, when divided with some numbers, are very close to the audio frequencies used by Aubrey Scoon’s Beam Ray replica instrument. It is easy to see the correlation between these two machines and the sideband method used by Philip Hoyland to hit the proper high-frequency M.O.R. harmonics of the Rife Ray #4 frequencies. There could be many more audio frequency sets depending on how you divide the “Carrier Difference Frequencies.” The best audio frequency set would be a list of the highest frequencies so that you have the lowest number of sideband harmonics to hit the M.O.R. The reason for this is power loss: the more sidebands the less power in each sideband. The power loss after about 40 sidebands is so great when looking on a spectrum analyzer, it is doubtful the sideband frequencies would work.

As mentioned before the higher the audio frequency used the more power there is in the sidebands. For this reason, we have put in the chart, shown below, a list of the optimum Beam Ray Clinical instrument audio frequencies to be used with a 3.80 MHz RF carrier frequency and a 40,000 Hertz audio oscillator. We did this since this original Beam Ray Clinical instruments oscillator went to just over 40,000 Hertz. This would give the lowest number of sideband harmonics and the greatest power in each sideband. On page 103 you will find oscilloscope images of the original Beam Ray Clinical instrument. On pages 104 through 110 you will find the spectrum analyzer graphs showing the sideband frequencies for each organism using the Beam Ray Clinical instrument 3.80 MHz RF carrier frequency. These graphs show which sideband frequency is hitting the Harmonic Rife Ray #4 frequency that is closest to the 3.80 MHz carrier frequency. These graphs show clearly how this instrument worked.

<b>Beam Ray Clinical Instrument Sideband Sine Wave Audio Frequencies</b>			
Anthrax	20, 800 Hz	Streptococcus	33,333 Hz
B or E Coli Rod	23,500 Hz	Steptothrix	40,000 Hz
B or E Coli Virus	25,000 Hz	Syphilis or Treponema	36,250 Hz
BX Virus Carcinoma	39,467 Hz	Tetanus	28,000 Hz
BY Sarcoma	?37,000 Hz	Tuberculosis Rod	36,667 Hz
Gonorrhea	36,000 Hz	Tuberculosis Virus	?22,500 Hz
Spinal Meningitis	21,500 Hz	Typhoid Rod	100 Hz
Staphylococcus	24,000 Hz	Typhoid Virus	38,214 Hz

**The Beam Ray Clinical Instrument Sideband Sine Wave Audio Frequencies Based On A 3.80 MHz Carrier**

Microorganism	Rife Ray #4 Frequencies	Higher Harmonic Frequencies	*Carrier Difference Frequencies	1/10 Of One Meter Freq.	Number of Sideband Harmonics	Aubrey Scoon's Frequencies	Beam Ray Clinical Frequencies
Actinomycosis or Streptothrix	192,000 Hz	3,840,000 or 20th	40,000 Hz	12 Hz	4	7,870 Hz	10,000 Hz
Anthrax	139,200 Hz	3,758,400 or 27th	41,600 Hz	6 Hz	5		8,320 Hz
B or E Coli Rod	417,000 Hz	3,753,000 or 9th	47,000 Hz	58 Hz	6	8,020 Hz	7,833 Hz
B or E Coli Virus	770,000 Hz	3,850,000 or 5th	50,000 Hz	198 Hz	3	17,220 Hz	16,667 Hz
BX Virus Carcinoma	1,604,000 Hz	3,208,000 or 2nd	592,000 Hz	858 Hz	15	21,275 Hz	39,467 Hz
BY Sarcoma	?1,530,000 Hz	3,060,000 or 2nd	740,000 Hz	780 Hz	20	20,080 Hz	37,000 Hz
Gonorrhea	233,000 Hz	3,728,000 or 16th	72,000 Hz	18 Hz	5		14,400 Hz
Pneumonia or Spinal Meningitis	427,000 Hz	3,843,000 or 9th	43,000 Hz	61 Hz	5	7,660 Hz	8,600 Hz
Staphylococcus Pyogenes Aureus	478,000 Hz	3,824,000 or 8th	24,000 Hz	76 Hz	3	7,270 Hz	8,000 Hz
Streptococcus Pyogenes	720,000 Hz	3,600,000 or 5th	200,000 Hz	173 Hz	24	8,450 Hz	8,333 Hz
Syphilis	789,000 Hz	3,945,000 or 5th	145,000 Hz	207 Hz	22	6,600 Hz	6,591 Hz
Tetanus	234,000 Hz	3,744,000 or 16th	56,000 Hz	18 Hz	5	1,200 Hz	11,200 Hz
Tuberculosis Rod	369,000 Hz	3,690,000 or 10th	110,000 Hz	45 Hz	13	8,300 Hz	8,462 Hz
Tuberculosis Virus	?769,000 Hz	3,845,000 or 5th	45,000 Hz	197 Hz	3	16,000 Hz	15,000 Hz
Typhoid Rod	760,000 Hz	3,800,000 or 5th	0 Hz	192 Hz	1	6,900 Hz	100 Hz
Typhoid Virus	1,445,000 Hz	4,335,000 or 3rd	535,000 Hz	694 Hz	14	18,620 Hz	38,214 Hz
Worms						2,400 Hz	

On pages 111 and 112 are two charts that show the Rife Ray #4 frequencies and their M.O.R. harmonics so you can see the progression of harmonic frequencies as they go up in harmonics to the frequencies that were used by Philip Hoyland in this Beam Ray Clinical instrument. With these two charts, you can do the same math that we did to determine the audio frequencies that will produce the proper sideband spacing. You will notice in the chart above called "The Beam Rays Clinical Instrument Sideband Sine Wave Audio Frequencies Based On A 3.80 MHz Carrier" that our list of audio frequencies for the Beam Ray Clinical instrument are located in all four bands of frequencies. Philip Hoyland said:

**HOYLAND:** *"The whole list of bacteria that the machine was treating was divided into four bands."* ([Beam Ray Trial Transcript #260](#)).

You will notice that Aubrey Scoon's Beam Ray replica frequencies are only in three bands (bands 2, 3 and 4). This is because Dr. Rife's engineer, Verne Thompson, used a different audio oscillator with this instrument than the audio oscillator used in our original instrument. The first band which covered from 20 Hertz to 200 Hertz is not used since the lowest audio frequency was 1200 Hertz when using a 3.30 Megahertz carrier frequency. In the original Beam Ray Clinical instrument, we obtained the audio oscillator was also changed but the RF carrier frequency was 3.80 Megahertz. With this carrier frequency, you will get one audio frequency that has to be in band one because it is so close to the carrier frequency that only a frequency of less than two hundred Hertz will work. On pages 113-115 you will find photos of the original Beam Ray Instrument as it was found.

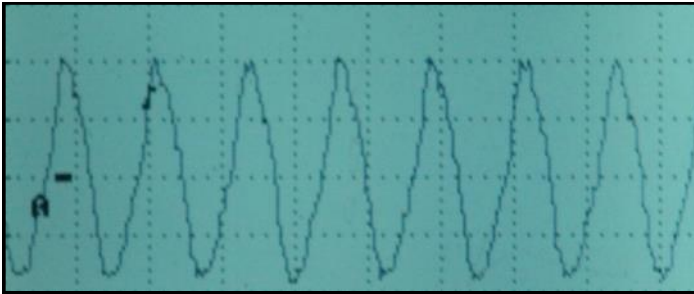


**IMPORTANT INFORMATION:** Many people have asked why the frequencies that were used to determine how this Beam Ray Clinical instrument worked are different than those used with Aubrey Scoon's Beam Ray replica instrument. The reason they are slightly different is this instrument was evaluated and analyzed first. It also used an RF carrier frequency which is different than Aubrey Scoon's instrument. It was the evaluating and analyzing of this instrument using the Rife Ray #4 frequencies that made it possible to figure out Aubrey Scoon's Beam Ray Clinical replica instrument. It was the information that was obtained from this Original Beam Ray Clinical instrument that made it possible to obtain the most accurate frequencies from Aubrey Scoon's Beam Ray Clinical instrument. In the Beam Ray Clinical instrument, the frequencies had to be calculated precisely or it would not work. The reason for this precision is, if you happen to be off frequency 20 Hertz on the first sideband then the second sideband will be off frequency 40 Hertz. The error will continue to be compounded with every sideband. It is easy to see that this simple small error would compound and make it so the instrument would not work. It is easy to see that even though the instrument frequencies would wander a little, the math to determine where the sidebands had to be needed to be exact. It was Philip Hoyland's precise math that made it so we would have the most accurate frequencies for the various microorganisms. Philip Hoyland said, on the stand, in the 1939 Beam Ray Trial that he tested the instrument in Rife's lab. His testimony revealed that he had tested the Beam Ray Clinical design using microorganisms to determine its effectiveness. Dr. Rife also tested this same instrument in his lab on micro-organisms in the early 1940s. So we know that this design worked. Please read Chapter 11 of this report to understand how we obtained the most accurate frequencies from Aubrey Scoon's Beam Ray Clinical replica instrument.

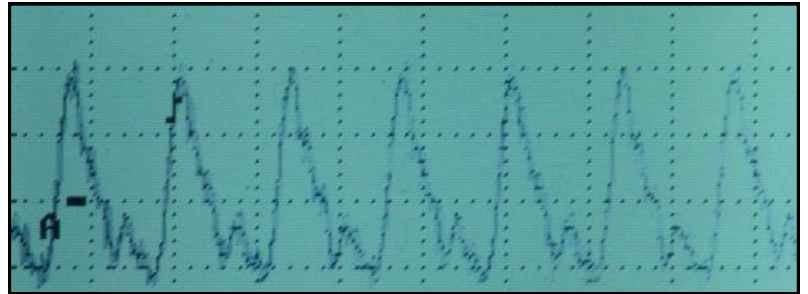
**CHAPTER SUMMARY:** It was the analyzing of the original Beam Ray Clinical instrument obtained from Dr. Low which revealed how the audio frequencies produce Dr. Rife's original higher harmonic frequencies through harmonic sidebands. There are some so-called "Rife Experts" who claim this harmonic sideband method is just a "red herring" that is misleading the whole Rife community including those seeking to understand Dr. Rife's technology. But when the math is looked at all of the M.O.R. frequencies match up to the sidebands and this fact cannot be explained in any other way. The math alone stands independent of any person. There are 15 frequencies which means the chances of this math being wrong are 1 in 100,000,000,000,000. The odds are too great for this to be just a mere chance. When analyzed with a spectrum analyzer this original machine only works on one principle or method call harmonic sidebands to produce Dr. Rife's frequencies. In Chapter 10 we will look at the next Rife Machine built by Philip Hoyland which was called the Beam Ray Laboratory instrument.

In Chapter 10, we will look at the next Rife Machine built by Philip Hoyland which was called the Beam Ray Laboratory instrument.

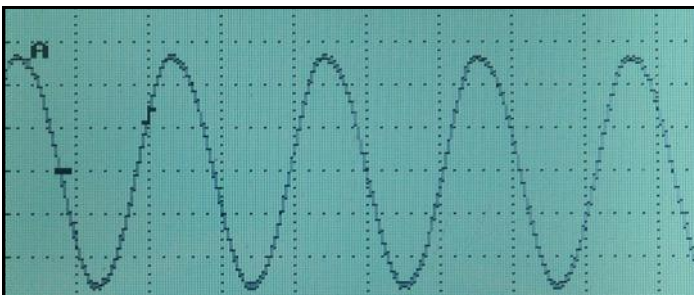
# Oscilloscope Readings Of The Original Beam Ray Clinical Instrument



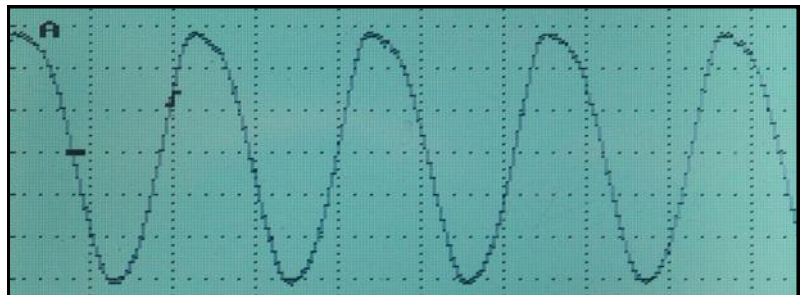
3.80 MHz carrier frequency before ray tube.



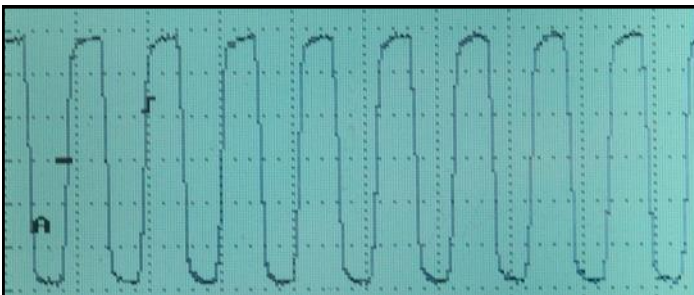
3.80 MHz carrier frequency after ray tube.



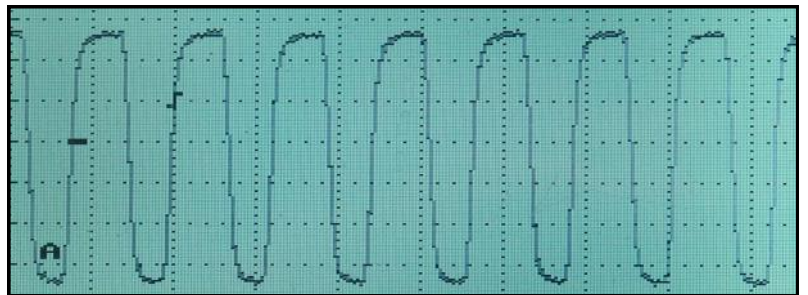
2,377 Hertz frequency from audio oscillator.



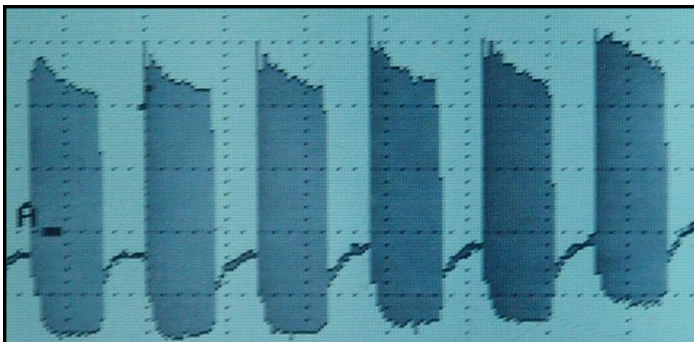
9,360 Hertz frequency from audio oscillator.



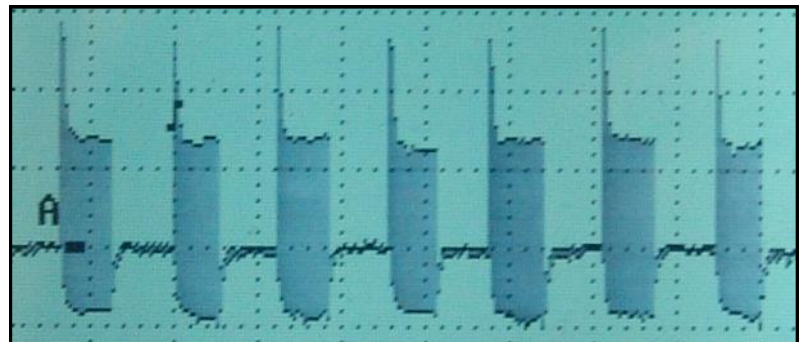
18,630 Hertz frequency from audio oscillator.



40,980 Hertz frequency from audio oscillator.

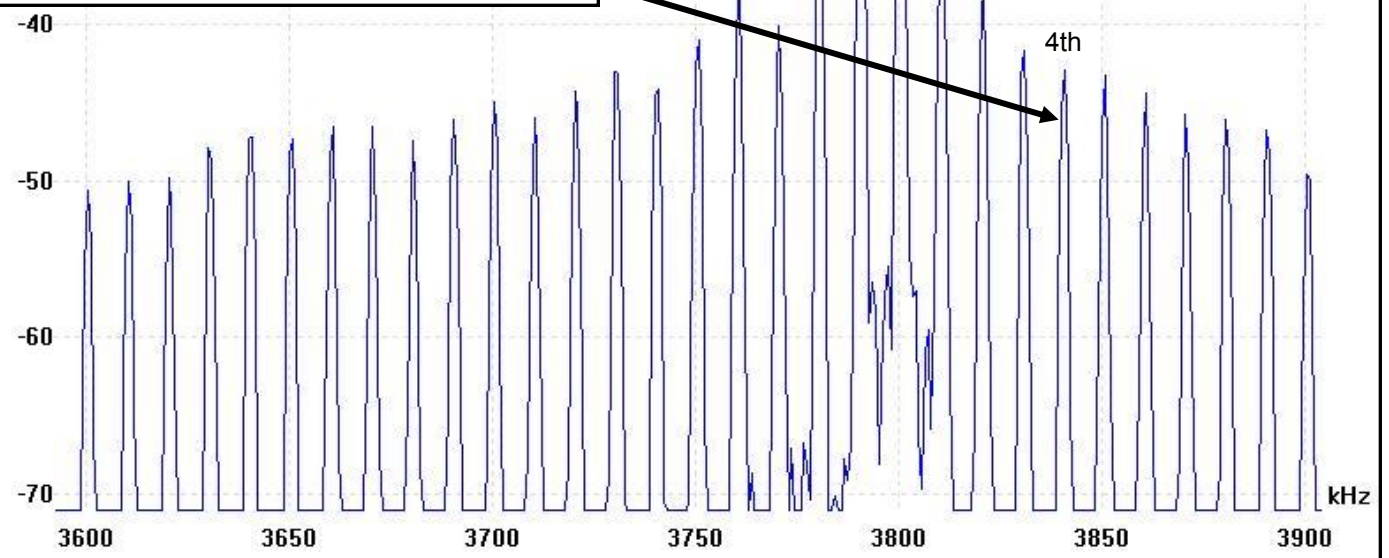


Original Beam Ray modulated waveform.



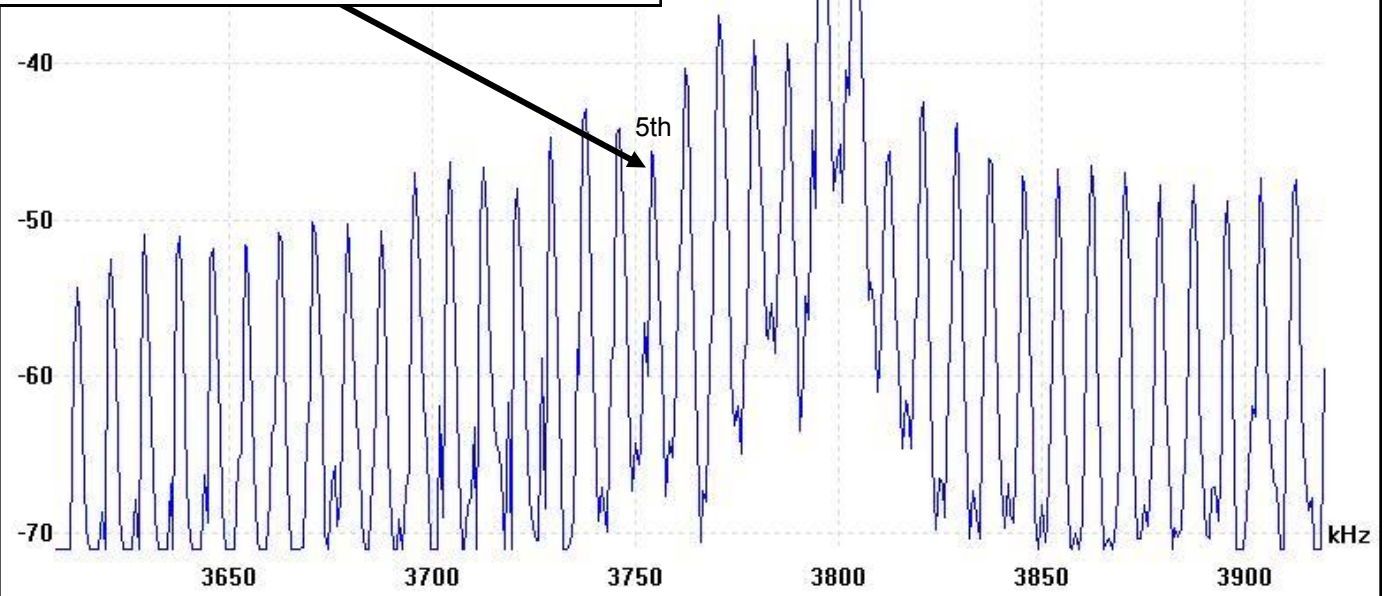
Aubrey Scoon's Beam Ray replica modulated waveform.

Rife Ray #4 192,000 Hertz for Actinomy-  
cosis or Streptothrix. The 20th Higher  
harmonic frequency is 3,840,000 Hertz.  
The audio frequency used for the proper  
sideband spacing is 10,000 Hertz. The  
4th upper sideband hit the M.O.R.



Philip Hoyland's Beam Ray Clinical instrument 3.80 Megahertz spectrum analysis of sideband harmonic frequencies.

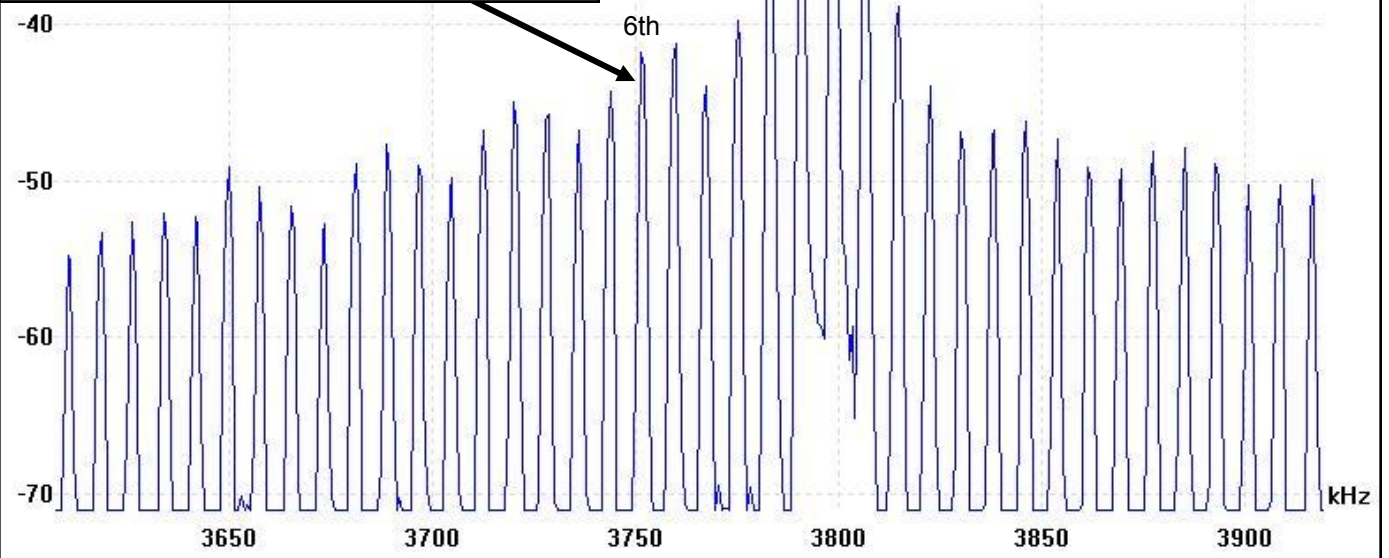
Rife Ray #4 139,200 Hertz for Anthrax. The  
27th Higher harmonic frequency is 3,758,400  
Hertz. The audio frequency used for the  
proper sideband spacing is 8,320 Hertz. The  
5th lower sideband hit the M.O.R.



Philip Hoyland's Beam Ray Clinical instrument 3.80 Megahertz spectrum analysis of sideband harmonic frequencies.

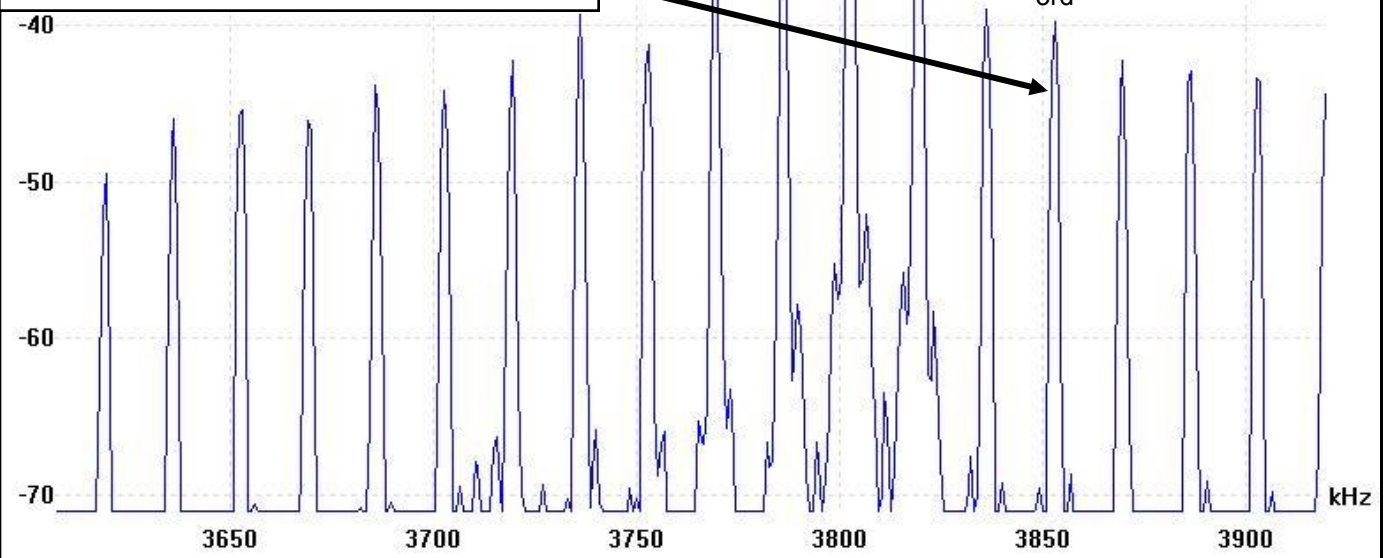


Rife Ray #4 417,000 Hertz for B or E Coli Rod. The 9th Higher harmonic frequency is 3,753,000 Hertz. The audio frequency used for the proper sideband spacing is 7,833 Hertz. The 6th lower sideband hit the M.O.R.



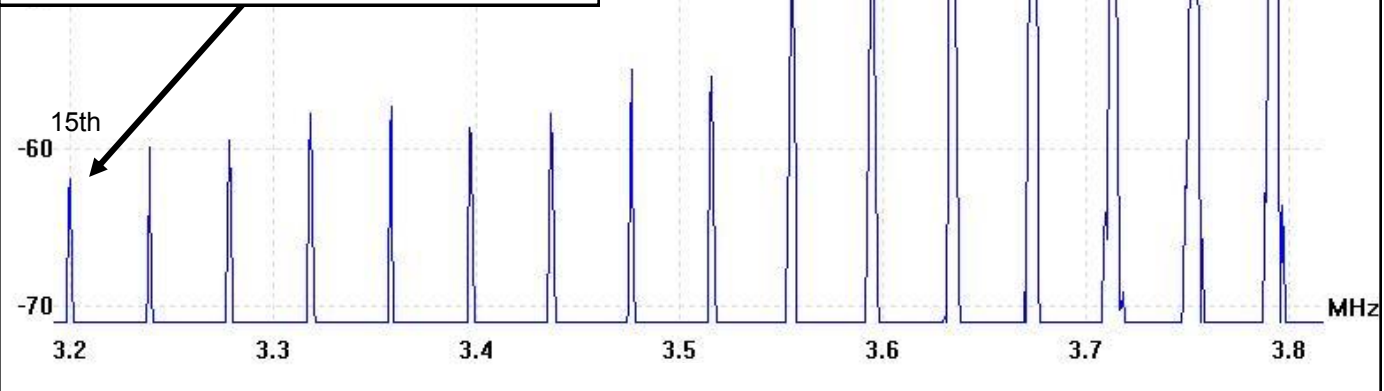
Philip Hoyland's Beam Ray Clinical instrument 3.80 Megahertz spectrum analysis of sideband harmonic frequencies.

Rife Ray #4 770,000 for B or E Coli Virus. The 5th Higher harmonic frequency is 3,850,000 Hertz. The audio frequency used for the proper sideband spacing is 16,667 Hertz. The 3rd upper sideband hit the M.O.R.



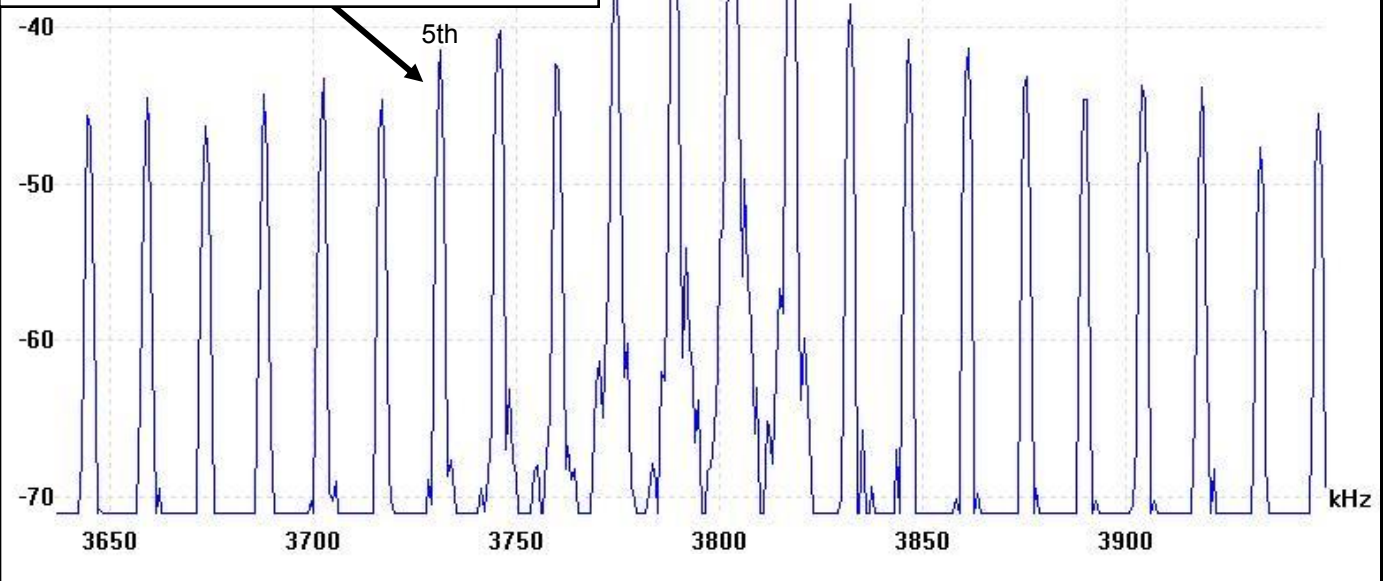
Philip Hoyland's Beam Ray Clinical instrument 3.80 Megahertz spectrum analysis of sideband harmonic frequencies.

Rife Ray #4 1,604,000 Hertz for the BX Cancer Virus. The 2nd Higher harmonic frequency is 3,208,000 Hertz. The audio frequency used for the proper sideband spacing is 39,467 Hertz. The 15th sideband hit the M.O.R. The greater the frequency difference from the carrier frequency to the M.O.R. the weaker the sidebands become. The 15th lower sideband is about all you would want to have over a 592,000 Hertz spread.



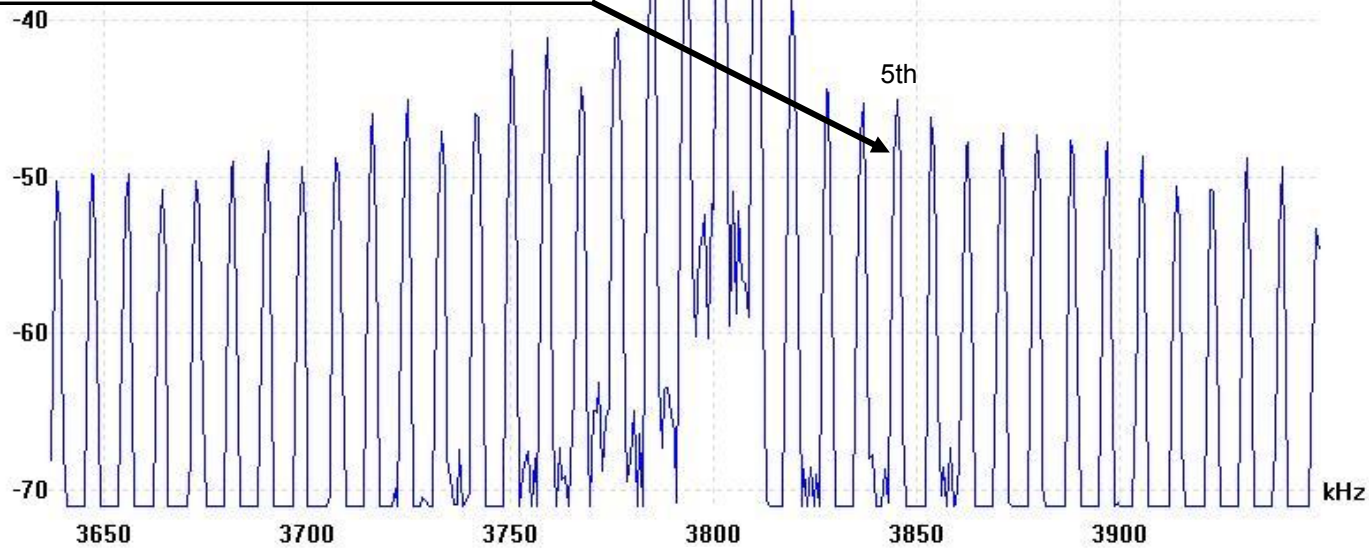
Philip Hoyland's Beam Ray Clinical instrument 3.80 Megahertz spectrum analysis of sideband harmonic frequencies.

Rife Ray #4 233,000 Hertz for Gonorrhea. The 16th Higher harmonic frequency is 3,728,000 Hertz. The audio frequency used for the proper sideband spacing is 14,400 Hertz. The 5th lower sideband hit the M.O.R.



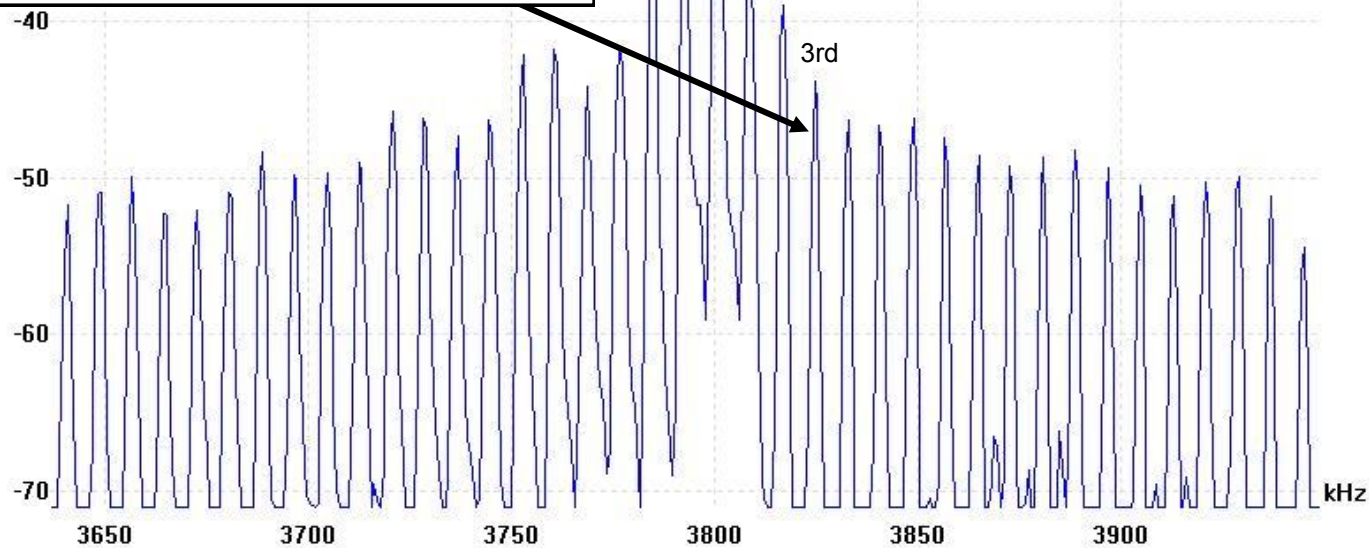
Philip Hoyland's Beam Ray Clinical instrument 3.80 Megahertz spectrum analysis of sideband harmonic frequencies.

Rife Ray #4 427,000 Hertz for Spinal Meningitis. The 9th Higher harmonic frequency is 3,843,000 Hertz. The audio frequency used for the proper sideband spacing is 8,600 Hertz. The 5th upper sideband hit the M.O.R.



Philip Hoyland's Beam Ray Clinical instrument 3.80 Megahertz spectrum analysis of sideband harmonic frequencies.

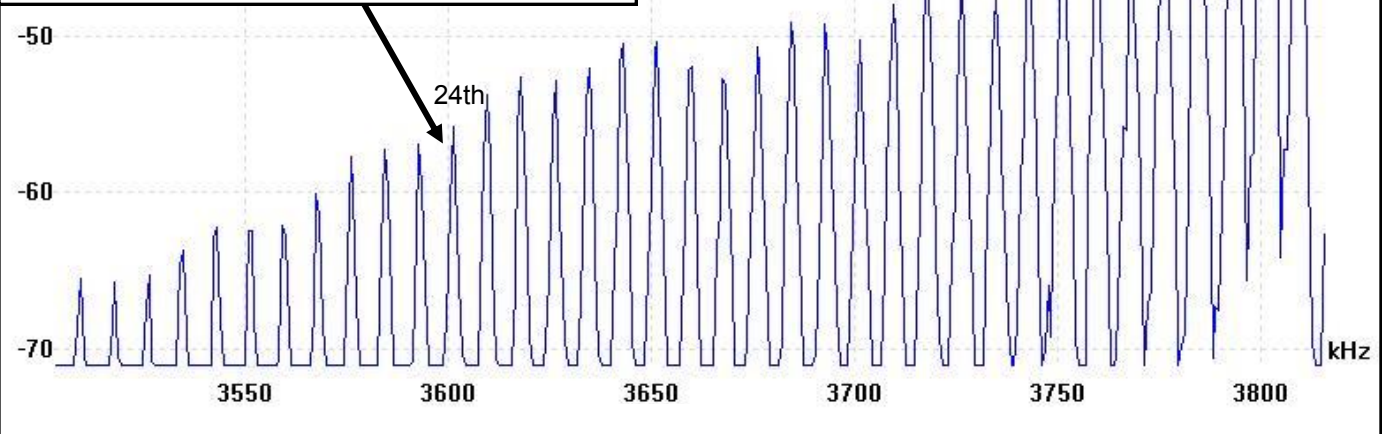
Rife Ray #4 478,000 Hertz for Staphylococcus Pyogenes Aureus. The 8th Higher harmonic frequency is 3,824,000 Hertz. The audio frequency used for the proper sideband spacing is 8,000 Hertz. The 3rd upper sideband hit the M.O.R.



Philip Hoyland's Beam Ray Clinical instrument 3.80 Megahertz spectrum analysis of sideband harmonic frequencies.

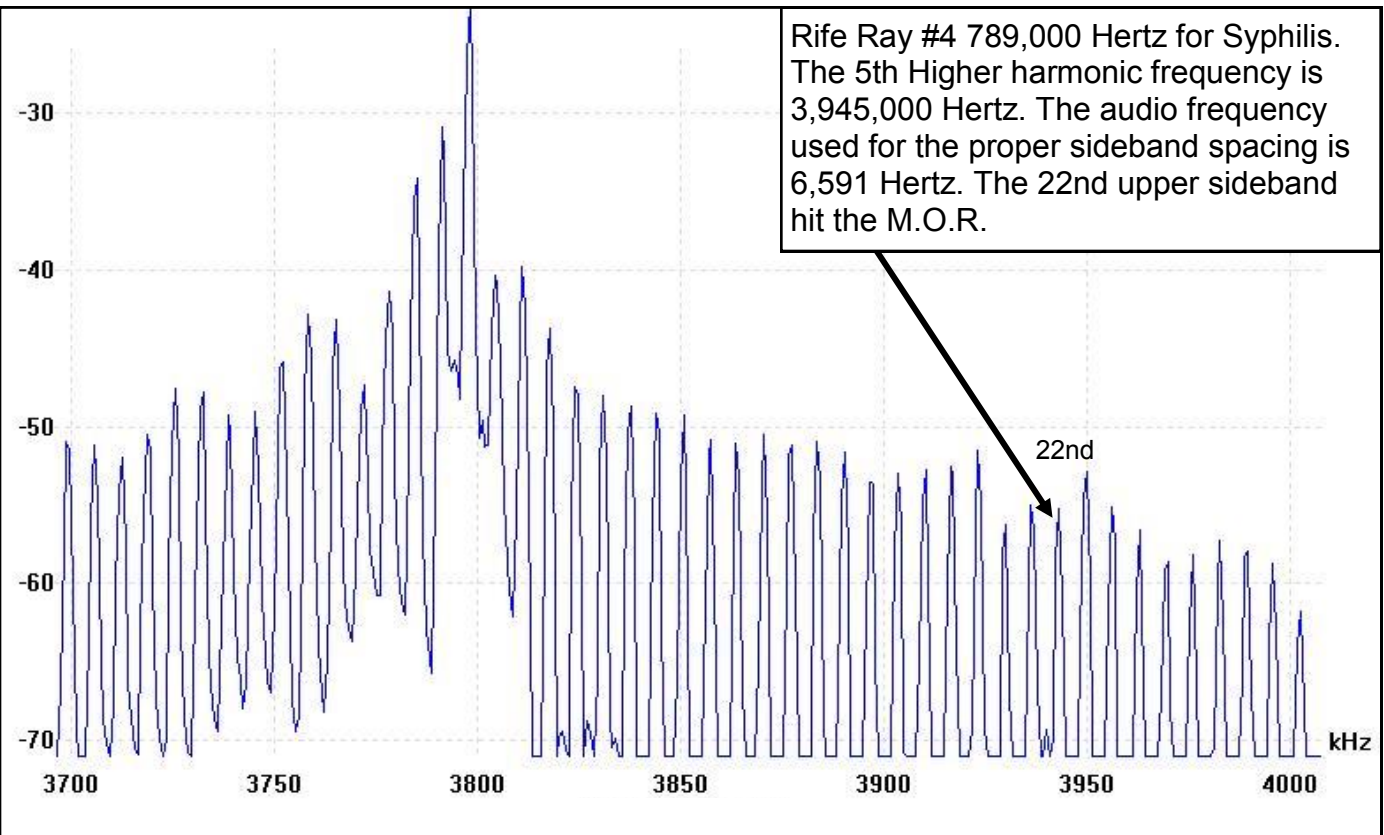


Rife Ray #4 720,000 Hertz for Streptococcus Pyogenes. The 5th Higher harmonic frequency is 3,600,000 Hertz. The audio frequency used for the proper sideband spacing is 8,333 Hertz. The 24th lower sideband hit the M.O.R. The smaller the difference between the M.O.R. frequency and the carrier frequency the greater the number of sideband frequencies that can be used with power.



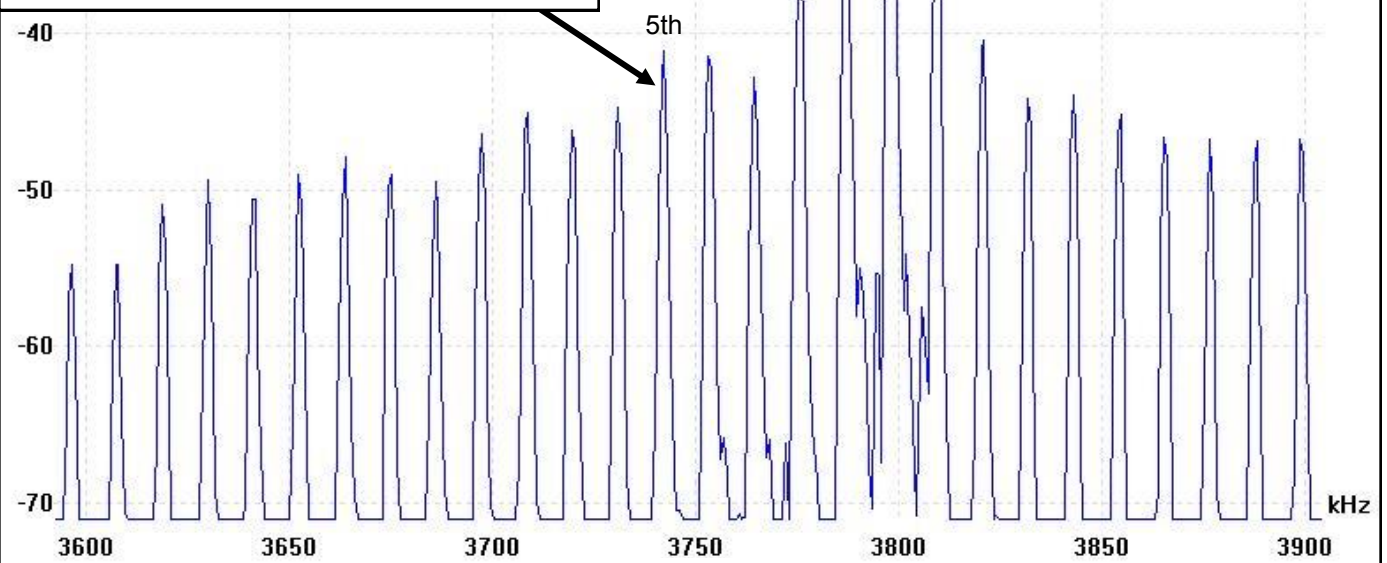
Philip Hoyland's Beam Ray Clinical instrument 3.80 Megahertz spectrum analysis of sideband harmonic frequencies.

Rife Ray #4 789,000 Hertz for Syphilis. The 5th Higher harmonic frequency is 3,945,000 Hertz. The audio frequency used for the proper sideband spacing is 6,591 Hertz. The 22nd upper sideband hit the M.O.R.



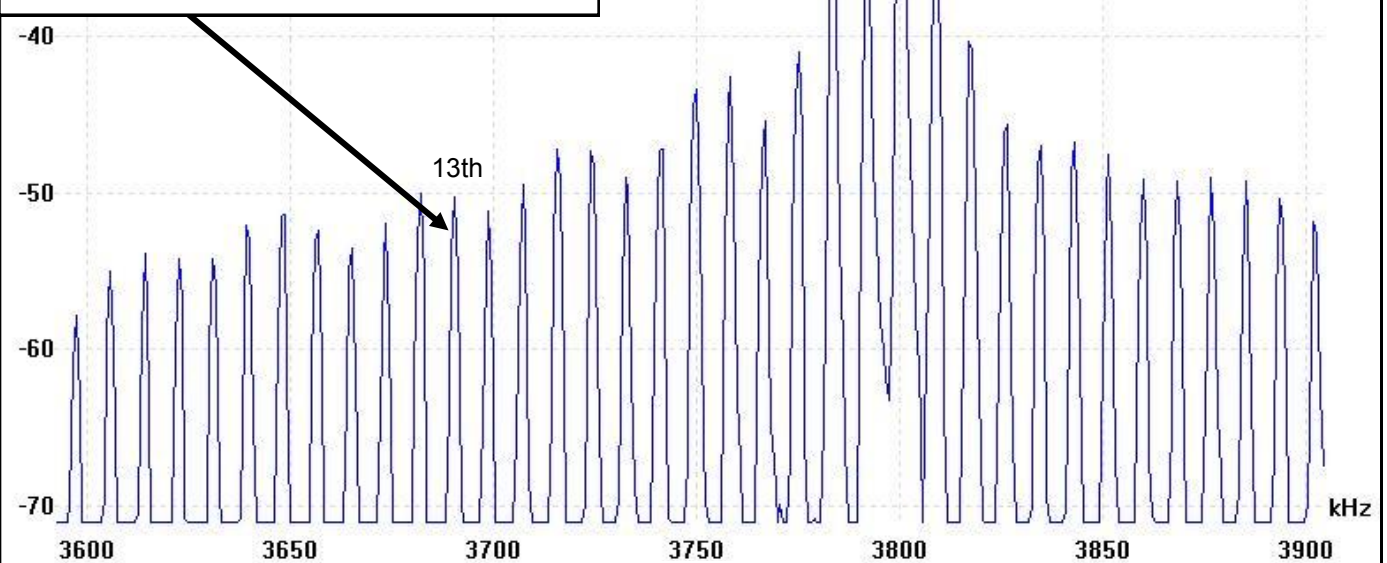
Philip Hoyland's Beam Ray Clinical instrument 3.80 Megahertz spectrum analysis of sideband harmonic frequencies.

Rife Ray #4 234,000 Hertz for Tetanus. The 16th Higher harmonic frequency is 3,744,000 Hertz. The audio frequency used for the proper sideband spacing is 11,200 Hertz. The 5th lower sideband hit the M.O.R.



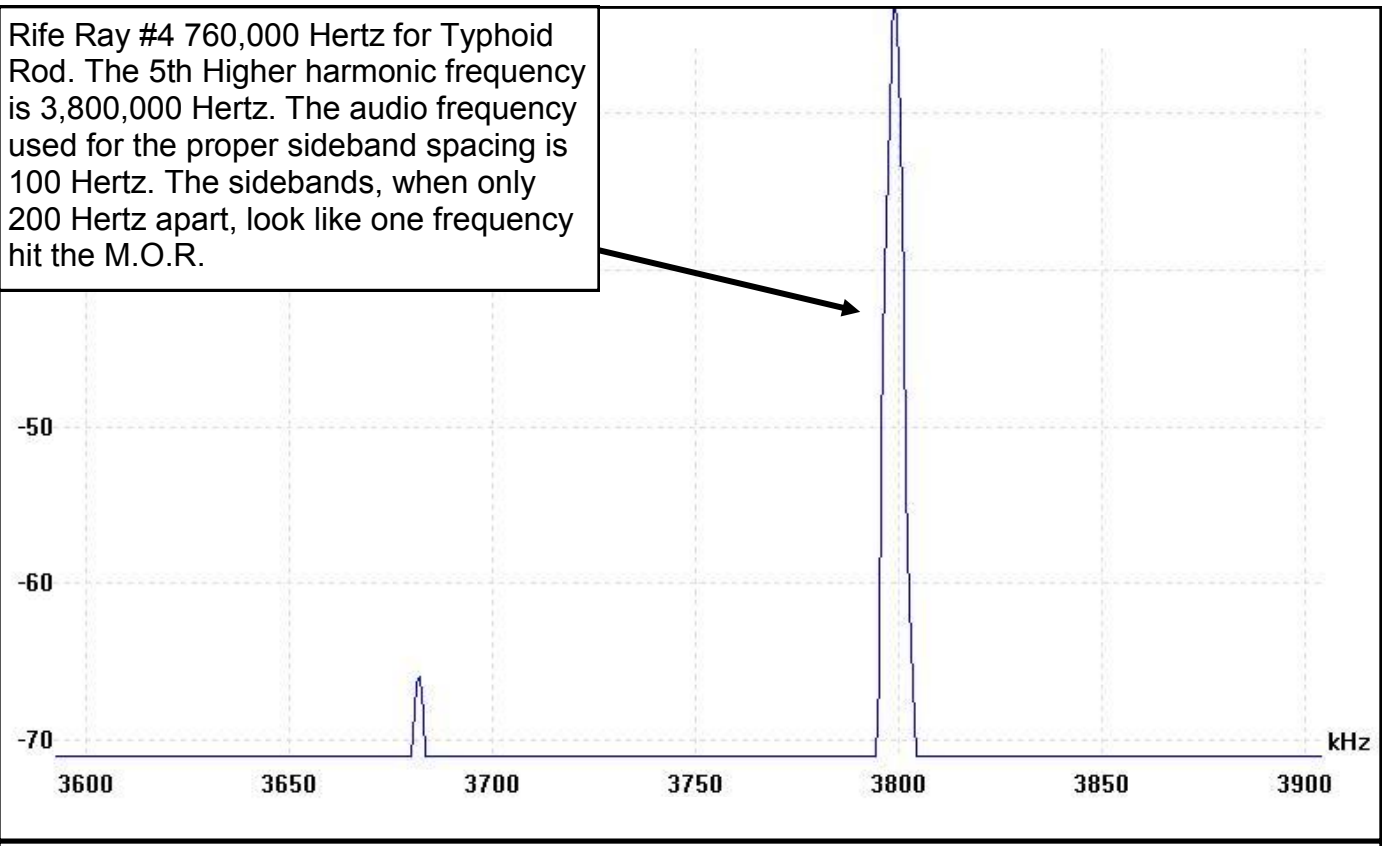
Philip Hoyland's Beam Ray Clinical instrument 3.80 Megahertz spectrum analysis of sideband harmonic frequencies.

Rife Ray #4 369,000 Hertz for Tuberculosis Rod. The 10th Higher harmonic frequency is 3,690,000 Hertz. The audio frequency used for the proper sideband spacing is 8,462 Hertz. The 13th lower sideband hit the M.O.R.



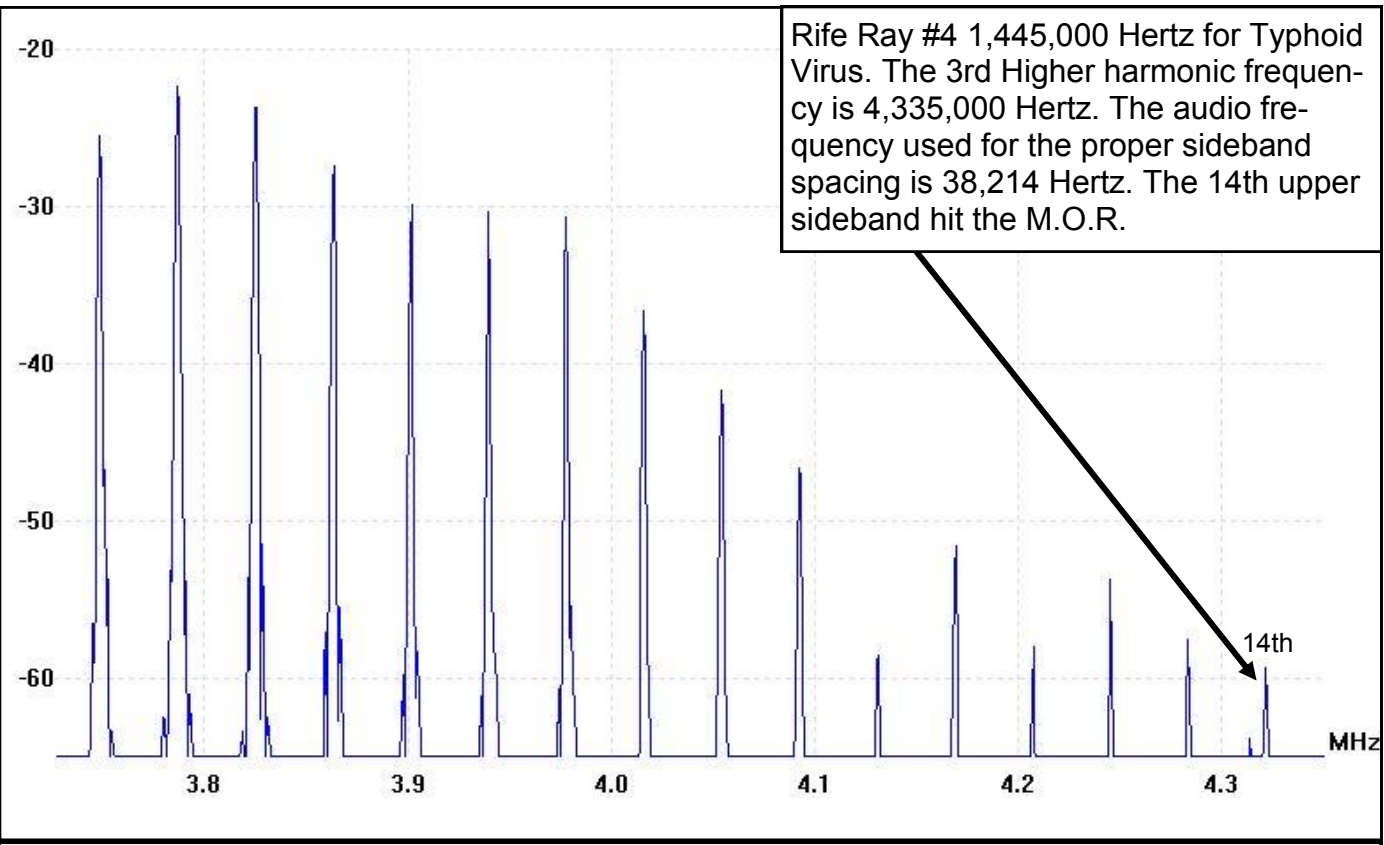
Philip Hoyland's Beam Ray Clinical instrument 3.80 Megahertz spectrum analysis of sideband harmonic frequencies.

Rife Ray #4 760,000 Hertz for Typhoid Rod. The 5th Higher harmonic frequency is 3,800,000 Hertz. The audio frequency used for the proper sideband spacing is 100 Hertz. The sidebands, when only 200 Hertz apart, look like one frequency hit the M.O.R.



Philip Hoyland's Beam Ray Clinical instrument 3.80 Megahertz spectrum analysis of sideband harmonic frequencies.

Rife Ray #4 1,445,000 Hertz for Typhoid Virus. The 3rd Higher harmonic frequency is 4,335,000 Hertz. The audio frequency used for the proper sideband spacing is 38,214 Hertz. The 14th upper sideband hit the M.O.R.



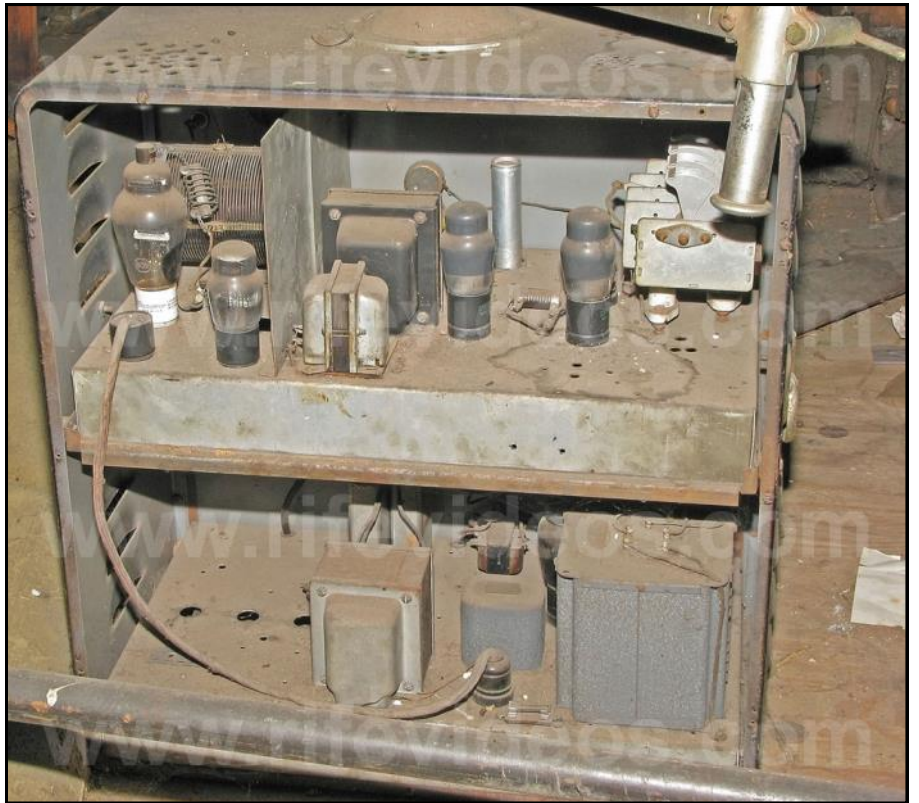
Philip Hoyland's Beam Ray Clinical instrument 3.80 Megahertz spectrum analysis of sideband harmonic frequencies.



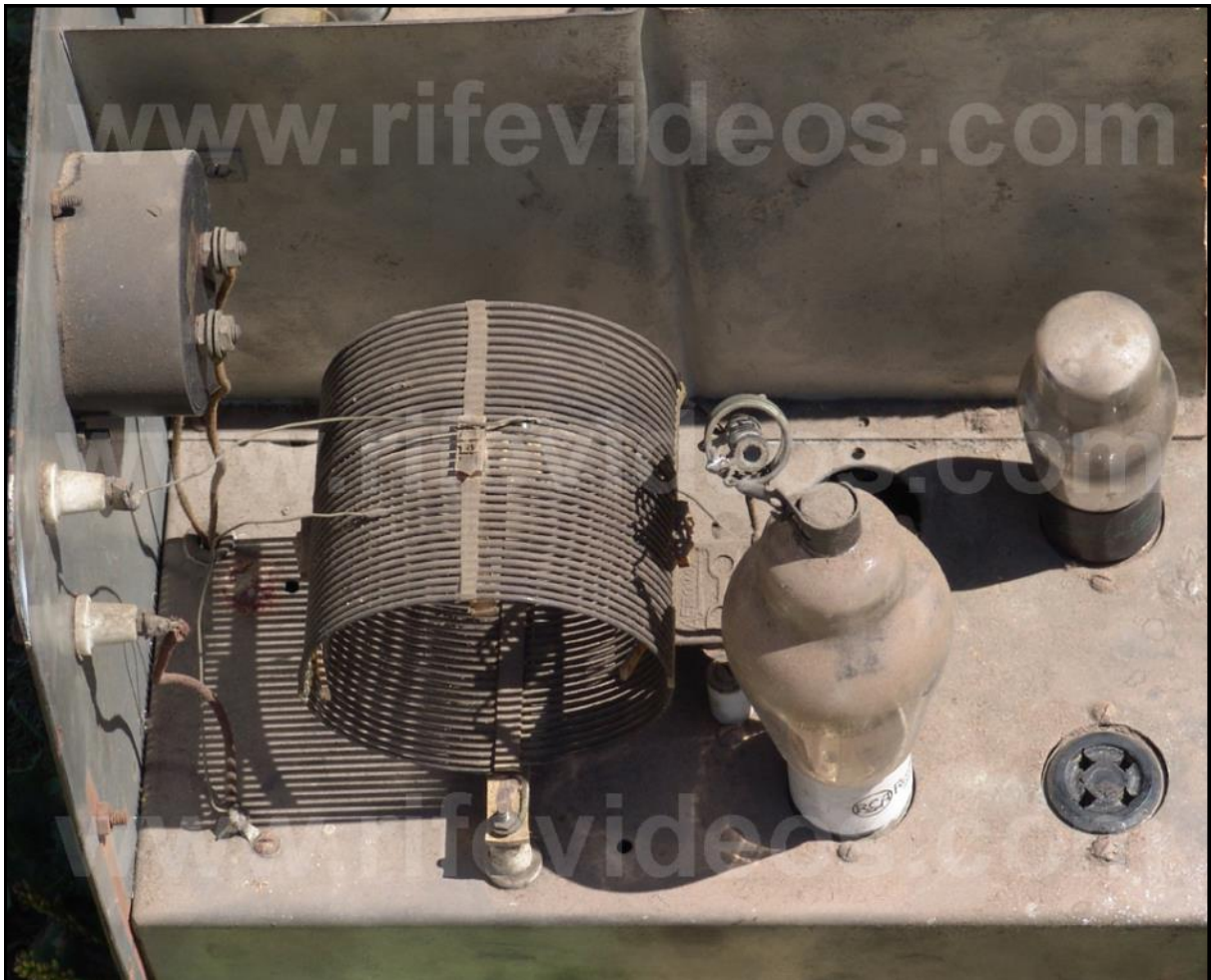
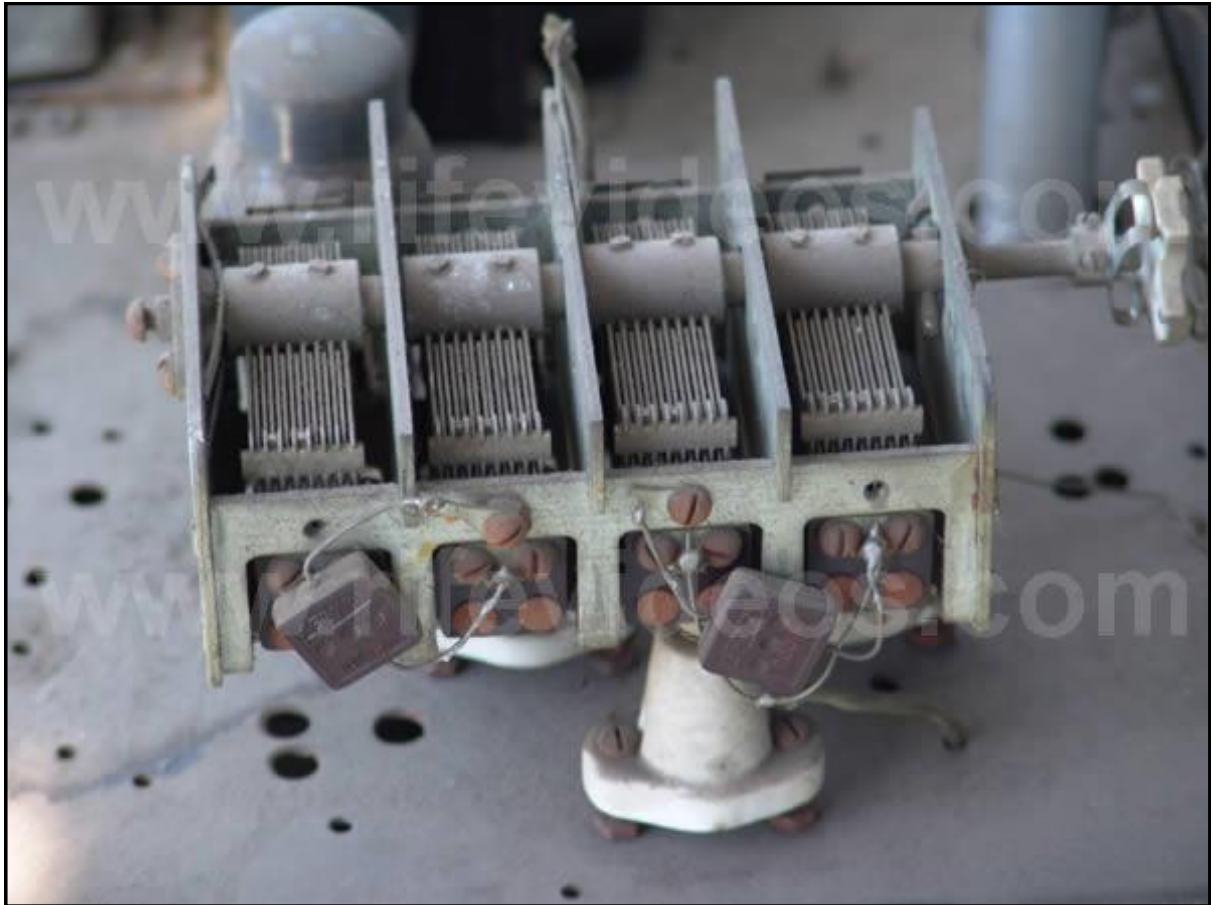
Streptothrix		Anthrax		B or E Coli Rod		B or E Coli Viurs		BX Cancer Virus		Gonorrhea		Spinal Meningitis	
1	192000	1	139200	1	417000	1	770000	1	1604000	1	233000	1	427000
2	384000	2	278400	2	834000	2	1540000	2	3208000	2	466000	2	854000
3	576000	3	417600	3	1251000	3	2310000	3	4812000	3	699000	3	1281000
4	768000	4	556800	4	1668000	4	3080000	4	6416000	4	932000	4	1708000
5	960000	5	696000	5	2085000	5	3850000	5	8020000	5	1165000	5	2135000
6	1152000	6	835200	6	2502000	6	4620000	6	9624000	6	1398000	6	2562000
7	1344000	7	974400	7	2919000	7	5390000	7	11228000	7	1631000	7	2989000
8	1536000	8	1113600	8	3336000	8	6160000	8	12832000	8	1864000	8	3416000
9	1728000	9	1252800	9	3753000	9	6930000	9	14436000	9	2097000	9	3843000
10	1920000	10	1392000	10	4170000	10	7700000	10	16040000	10	2330000	10	4270000
11	2112000	11	1531200	11	4587000	11	8470000	11	17644000	11	2563000	11	4697000
12	2304000	12	1670400	12	5004000	12	9240000	12	19248000	12	2796000	12	5124000
13	2496000	13	1809600	13	5421000	13	10010000	13	20852000	13	3029000	13	5551000
14	2688000	14	1948800	14	5838000	14	10780000	14	22456000	14	3262000	14	5978000
15	2880000	15	2088000	15	6255000	15	11550000	15	24060000	15	3495000	15	6405000
16	3072000	16	2227200	16	6672000	16	12320000	16	25664000	16	3728000	16	6832000
17	3264000	17	2366400	17	7089000	17	13090000	17	27268000	17	3961000	17	7259000
18	3456000	18	2505600	18	7506000	18	13860000	18	28872000	18	4194000	18	7686000
19	3648000	19	2644800	19	7923000	19	14630000	19	30476000	19	4427000	19	8113000
20	3840000	20	2784000	20	8340000	20	15400000	20	32080000	20	4660000	20	8540000
21	4032000	21	2923200	21	8757000	21	16170000	21	33684000	21	4893000	21	8967000
22	4224000	22	3062400	22	9174000	22	16940000	22	35288000	22	5126000	22	9394000
23	4416000	23	3201600	23	9591000	23	17710000	23	36892000	23	5359000	23	9821000
24	4608000	24	3340800	24	10008000	24	18480000	24	38496000	24	5592000	24	10248000
25	4800000	25	3480000	25	10425000	25	19250000	25	40100000	25	5825000	25	10675000
26	4992000	26	3619200	26	10842000	26	20020000	26	41704000	26	6058000	26	11102000
27	5184000	27	3758400	27	11259000	27	20790000	27	43308000	27	6291000	27	11529000
28	5376000	28	3897600	28	11676000	28	21560000	28	44912000	28	6524000	28	11956000
29	5568000	29	4036800	29	12093000	29	22330000	29	46516000	29	6757000	29	12383000
30	5760000	30	4176000	30	12510000	30	23100000	30	48120000	30	6990000	30	12810000
31	5952000	31	4315200	31	12927000	31	23870000	31	49724000	31	7223000	31	13237000
32	6144000	32	4454400	32	13344000	32	24640000	32	51328000	32	7456000	32	13664000
33	6336000	33	4593600	33	13761000	33	25410000	33	52932000	33	7689000	33	14091000
34	6528000	34	4732800	34	14178000	34	26180000	34	54536000	34	7922000	34	14518000

Staph Pyo Aureus		Strept Pyogenes		Syphilis		Tetanus		Tuberculosis Rod		Typhoid Rod		Typhoid Virus	
1	478000	1	720000	1	789000	1	234000	1	369000	1	760000	1	1445000
2	956000	2	1440000	2	1578000	2	468000	2	738000	2	1520000	2	2890000
3	1434000	3	2160000	3	2367000	3	702000	3	1107000	3	2280000	3	4335000
4	1912000	4	2880000	4	3156000	4	936000	4	1476000	4	3040000	4	5780000
5	2390000	5	3600000	5	3945000	5	1170000	5	1845000	5	3800000	5	7225000
6	2868000	6	4320000	6	4734000	6	1404000	6	2214000	6	4560000	6	8670000
7	3346000	7	5040000	7	5523000	7	1638000	7	2583000	7	5320000	7	10115000
8	3824000	8	5760000	8	6312000	8	1872000	8	2952000	8	6080000	8	11560000
9	4302000	9	6480000	9	7101000	9	2106000	9	3321000	9	6840000	9	13005000
10	4780000	10	7200000	10	7890000	10	2340000	10	3690000	10	7600000	10	14450000
11	5258000	11	7920000	11	8679000	11	2574000	11	4059000	11	8360000	11	15895000
12	5736000	12	8640000	12	9468000	12	2808000	12	4428000	12	9120000	12	17340000
13	6214000	13	9360000	13	10257000	13	3042000	13	4797000	13	9880000	13	18785000
14	6692000	14	10080000	14	11046000	14	3276000	14	5166000	14	10640000	14	20230000
15	7170000	15	10800000	15	11835000	15	3510000	15	5535000	15	11400000	15	21675000
16	7648000	16	11520000	16	12624000	16	3744000	16	5904000	16	12160000	16	23120000
17	8126000	17	12240000	17	13413000	17	3978000	17	6273000	17	12920000	17	24565000
18	8604000	18	12960000	18	14202000	18	4212000	18	6642000	18	13680000	18	26010000
19	9082000	19	13680000	19	14991000	19	4446000	19	7011000	19	14440000	19	27455000
20	9560000	20	14400000	20	15780000	20	4680000	20	7380000	20	15200000	20	28900000
21	10038000	21	15120000	21	16569000	21	4914000	21	7749000	21	15960000	21	30345000
22	10516000	22	15840000	22	17358000	22	5148000	22	8118000	22	16720000	22	31790000
23	10994000	23	16560000	23	18147000	23	5382000	23	8487000	23	17480000	23	33235000
24	11472000	24	17280000	24	18936000	24	5616000	24	8856000	24	18240000	24	34680000
25	11950000	25	18000000	25	19725000	25	5850000	25	9225000	25	19000000	25	36125000
26	12428000	26	18720000	26	20514000	26	6084000	26	9594000	26	19760000	26	37570000
27	12906000	27	19440000	27	21303000	27	6318000	27	9963000	27	20520000	27	39015000
28	13384000	28	20160000	28	22092000	28	6552000	28	10332000	28	21280000	28	40460000
29	13862000	29	20880000	29	22881000	29	6786000	29	10701000	29	22040000	29	41905000
30	14340000	30	21600000	30	23670000	30	7020000	30	11070000	30	22800000	30	43350000
31	14818000	31	22320000	31	24459000	31	7254000	31	11439000	31	23560000	31	44795000
32	15296000	32	23040000	32	25248000	32	7488000	32	11808000	32	24320000	32	46240000
33	15774000	33	23760000	33	26037000	33	7722000	33	12177000	33	25080000	33	47685000
34	16252000	34	24480000	34	26826000	34	7956000	34	12546000	34	25840000	34	49130000

Photos of the original 1938-1939 Beam Ray Clinical instrument when it was found





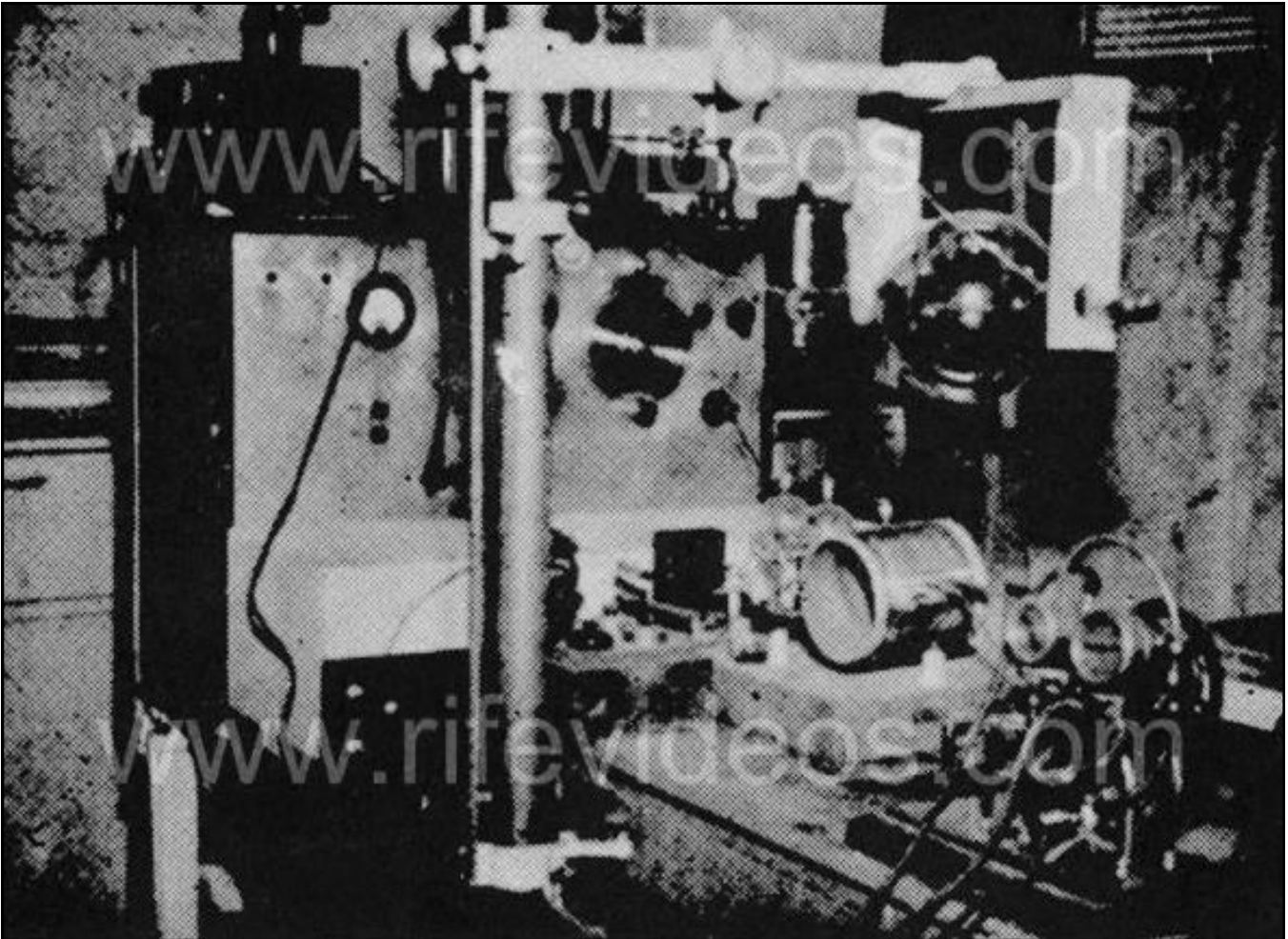






## Chapter 10

### The Gruner Schematic and Philip Hoyland's Beam Ray Laboratory Rife Machine



1. Used a ray tube.
2. Had one RF oscillator which was set at a fixed frequency.
3. Had a fix audio pulsing circuit.
4. Power usage was about 450 to 600 watts. Output to the ray tube was probably about 50 to 74-watts.

In this chapter, we will cover two instruments. First, Dr. Gruner's Rife machine and second, the Beam Ray Laboratory Rife machine. The reason for this is the work done on the Gruner instrument lead to many discoveries of how Dr. Rife's machines worked. The first instrument we will discuss is the Gruner Rife Machine. From some recent documents that were found by Mr. Ringas, we have found it necessary to change some of the information in this chapter which deals with Dr. Gruner's Rife instrument.

The new documents that were found by Mr. Ringas reveal the fact that the Gruner Rife machine had one fixed RF oscillator. It was previously believed that this instrument was a Beam Ray laboratory instrument that had two high RF frequency oscillators. We now know from these documents that this was an incorrect assumption. The new information comes from two letters written to John Crane back in 1953 from Dr. O. C. Gruner. John Crane at that time was inquiring about the status of Dr. Gruner's Rife machine that was sent to him in 1942 by Dr. Milbank Johnson M.D.:



**DR. GRUNER:** *"You refer, I suppose, to the ray machine which Milbank Johnson sent "in bits" to me in Montreal [Canada]. Vergil Neher assembled it, but actually, I had to purchase a large amount of the radio material to be able to get it completed. I used this machine quite a bit, and it was very successful at first; but after about six months it "faded", first the tubes seemed all right. The only reason would have been changes in the glass of the globe [ray tube] as a result of the discharges... I could send the plan [schematic] of the apparatus."* ([Letter from Dr. Gruner to John Crane, March 31, 1953](#)).

**DR. GRUNER:** *"I enclosed the diagram [schematic] of the Ray Machine as made here in 1942. So I hope it will be of interest to you. It will not be necessary to return it. It is to be noted that it was made only for one frequency; obviously, it would be necessary to alter the design to enable many frequencies to be used."* ([Letter from Dr. Gruner to John Crane, April 29, 1953](#)).

These two letters changed all our understanding of this instrument. John Crane had altered the schematic and put a second Hartley oscillator on the schematic which confused us when we originally built the instrument. This second Hartley oscillator, added by John Crane, which will be shown in a photo below, made it so the instrument would have had one fixed RF oscillator and a second variable RF oscillator. This second variable RF oscillator, that John Crane added to the schematic, would make it so that the instrument could output many different frequencies. Logically this is what Dr. Rife, John Crane, and John Marsh wanted in an instrument. But this is not how Dr. Gruner's original instrument worked.

From the analyzing of the original Beam Ray Clinical instrument, which was built by Philip Hoyland, we know that it had the capability of variable audio frequencies. We need to point out here that Dr. Gruner's ray tube instrument did not work on the Beam Ray Clinical instrument harmonic sideband method. From these two letters we now know that Dr. Gruner's instrument work on the same principles as the Rife Ray #4 instrument. That instrument output the specific frequencies directly from its two variable RF oscillators. Because the Rife Ray #4 put out specific frequencies it also used a modulated fixed audio pulsing circuit to pulse the high RF frequencies that were used to devitalize the various microorganisms. This modulated fixed audio frequency pulsing method was used with all of Dr. Rife's instruments. The Gruner schematic which has this modulated fixed audio frequency pulsing circuit reveals how Dr. Rife used this pulsing method in his instruments. With this understanding we now have a clearer understanding of how these four instruments, Rife Ray #3, Rife Ray #4, Beam Ray Laboratory and Gruner Rife machine really worked.

As we pointed out when we initially looked at Dr. Gruner's schematic, several years ago, we were under the wrong assumption, because John Crane altered the schematic by adding the second Hartley oscillator to Dr. Gruner's schematic. But that wrong assumption actually caused us to build an instrument that worked almost exactly as the Rife Ray #4 did. Except the instrument that we built from Dr. Gruner's schematic did not have as high a frequency range as the Rife Ray #4. Because of what we have just explained we feel that the information that we obtained from the initial building of the Gruner schematic, several years ago, should be kept in this report. What was learned, even under the wrong assumption, revealed how the Rife Ray #4 was built and will still be of interest to those who may want to build this instrument.

The Beam Ray Laboratory instrument would have worked like the Gruner instrument and the Rife Ray #4 instrument since both of these were to be used in laboratory work. An instrument that worked like the Beam Ray Clinical instrument, which worked on the harmonic sideband method, would have been useless in any laboratory work since you could never know the exact frequency that killed, devitalize or rendered harmless an organism. For this reason the Beam Ray Laboratory instrument is still included in this information about Dr. Gruner's Rife instrument.

## The initial Gruner schematic work done in 2007-2008

In one of the previous versions of this report, we dealt with the concept that the Gruner instrument was a heterodyning instrument. We now know that this method was not used in the Gruner Rife Machine therefore the heterodyning concept was removed from a previous rewriting of this document. Though the Rife Ray #4 Rife Machine could output two frequencies at the same time and those two frequencies did heterodyne in the ray tube, this was a byproduct of the instrument, not the method used to produce the M.O.R. frequencies needed to devitalize or render harmless the microorganisms. The knowledge that we gained through our testing of this concept is the reason much of the history and work that we did at that time is still included in this report. It was that testing which gave us the understanding of how the Rife Ray #4 worked and how the Beam Ray Laboratory Rife Machine would have worked.

We do not have a picture of Dr. Gruner's Rife instrument so we have no idea what it looked like. This, however, did not affect building the instrument from the schematic. The Rife Machine in the photo shown at the beginning of this chapter is probably a photo of the Beam Ray Laboratory instrument built by Philip Hoyland. John Crane dated that instrument as being built in 1935 but we know that the Rife Ray #4 was built in 1935. The knowledge of the Laboratory instrument came from the [Beam Ray Trial manuscript](#). A complete copy of this transcript was provided when Steven Ross allowed us to scan it. I would like to acknowledge his generous contribution of this information that has given us a great deal of understanding so that we could figure out the history of how and when the instruments were built.

After reading for the first time the complete Beam Ray Trial manuscript I found there was mention of a Laboratory instrument. It appeared that this Laboratory instrument was probably to be used by those who would be working in laboratories with microorganisms for testing. Dr. O. C. Gruner worked in a laboratory with organisms and worked with Dr. Rife on the organism called [Cryptomyces Pleomorpha fungi](#). The Laboratory instrument was mentioned two or three times but no real information was given about it. Below are statements made by Bertrand Comparet and Philip Hoyland in the Beam Ray Trial that gives us some important information about this instrument. (#209-210, 217-222):

**COMPARET**: *"The four machines bought by the British were two so-called laboratory types and two so-called clinical types, what was the difference between the two."*

**HOYLAND**: *"The clinical type was similar in all respects to the Rife machine except that it did not have [word missing] of the [word missing] used on Mrs. Henderson."*

**COMPARET**: *"How was the price of these machines fixed."*

**HOYLAND**: *"The price was decided from the costs of what it cost to manufacture the first machine that was sold to Dr. Hamer."*

**COMPARET**: *"How much was that?"*

**HOYLAND**: *"I think it was four hundred dollars plus the royalty."*

**COMPARET**: *"Wasn't it five hundred dollars plus royalty on the clinical type and six plus royalty on the lab type."*

**HOYLAND**: *"I don't remember." ([Beam Ray Trial Transcript #209-210, 217-222](#)).*

Since this Beam Ray Laboratory Rife Machine was for Laboratory work it would have worked like the Rife Ray #4 but because the case was smaller it probably had a smaller frequency range. The

Rife Ray #4 had nine frequency bands that covered from 87,000 Hertz to 22.5MHz (22,500,000 Hertz). The first four bands of the #4 covered from 87,000 Hertz to 2,140,000 Hertz. These four frequency bands would cover the whole list of Dr. Rife's disease organisms listed on the Rife Ray #4 documents. With this understanding, we know that the Laboratory instrument at least covered this frequency range. We will not speculate if it had a higher frequency range because we really do not know if it did.

## **Deciphering Dr. Gruner's Beam Ray instrument schematic**

Several years ago a group of us had been looking at the Gruner schematic in hopes of trying to figure out how it worked. I had built and tested both the 1953 AZ-58 Beam Ray Clinical instrument and 1950's Aubrey Scoon, Beam Ray Clinical replica instruments. To our knowledge, none of these instruments ever obtained the same results as the original Beam Ray Clinical Rife Machine built by the original 1938 Beam Ray Corporation. All the documentation we had showed that there were changes made to the original Beam Ray design which compromised the 1953 AZ-58, and possibly 1950's Aubrey Scoon, Verne Thompson instruments. John Crane, over the years, told many people that the AZ-58 and the audio frequencies it used were Dr. Rife's original frequencies. The Rife documents we have show that what John Crane claimed was not correct. Dr. Rife was not using audio frequencies in 1934 as John Crane and John Marsh claimed. Rebuild of the 1953 AZ-58 and Aubrey Scoon's instrument partially made the rediscovery of the Beam Ray Laboratory instrument possible.

At the 2003 Rife Conference, a gentleman put up the Gruner schematic of an original Beam Ray instrument. From reading the Rife documents I knew that this schematic existed because John Crane had mentioned it in his papers. John Crane said that the AZ-58 was built from that schematic. When I saw it I knew it was important, so I took still photos of it with my video camera. Because the video camera only had a one mega-pixel capability I took many up close photos knowing I could put it back together at a later date. Back in 2004 I gave this schematic to Aubrey Scoon and his British Rife group in hopes that they could look it over and correct any mistakes that may have been made. They redrew the schematics, unfortunately without fully correcting them, and put them up on their web site. This information was released because we wanted everyone to have access to it.

Back on July 27, 2007 a Mr. Andrews, who was one of the British Rife group and I got into another conversation about the Gruner schematic. He asked me to send him another copy of the original Gruner schematic so he could look it over again. An email conversation began at that time which included Mr. Peters, Mr. Ringas, Mr. Andrews, Mr. Berger and myself. Mr. Peters immediately noticed that the schematic that had been redrawn by the British group had some errors in it. Discussions continued on and off for a few months until one day Mr. Peters noticed an oversight when looking over the schematic again. At the time we thought it had to do with the heterodyning method. But now we understand that this oversight was one of the keys to understanding how the Rife Ray #4 and Beam Ray Laboratory Rife Machines would have worked.

Mr. Peters sent Mr. Ringas and me an email. He mentioned that a possible test could be made that would determine if this observation of his was the key to understanding how the Beam Ray Laboratory instrument really worked. I called Mr. Peters and had a discussion with him and he told me how we could make these tests. I told him that we did not need to do the test with solid-state frequency generators because I had conducted a similar test back when John Bedini and I were working on the AZ-58 tests. John Bedini and I knew that the original Rife Ray #4 instrument was a lot more powerful than the AZ-58 because of the Rife documents. After more accurate testing we found the AZ-58 only output about 40 watts from the ray tube. I told him that I still had my 1950's Aubrey Scoon replica and several AZ-58's on the shelf. I told John Bedini that the original Beam Ray Clinical instrument, from the documentation that we had, may have output about 50 to 60 watts from the ray tube. He told me how I could make a test, by putting two AZ-58s together, which would give me at least 60 watts out of the ray tube. I didn't know it at that time but that test was probably the way the Rife Ray #4 and Beam Ray Laborato-

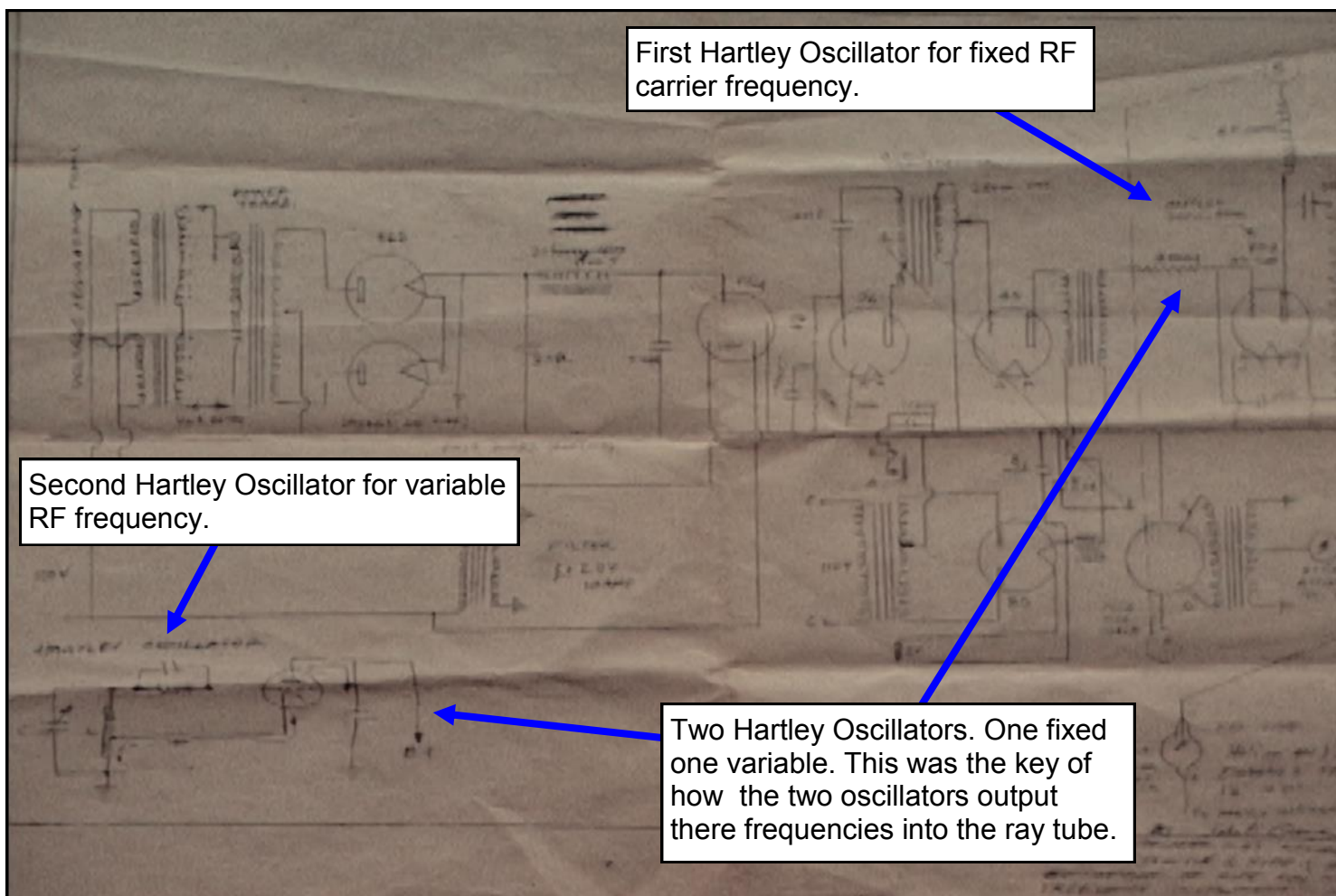


ry instrument worked. I told Mr. Peters I would connect the AZ-58 and Aubrey Scoon instruments together again and make the tests that he suggested, but this time I would use my spectrum analyzer and we would fully make tests and find out if this was the method Philip Hoyland used. This test made the two instruments work exactly the same as the Gruner Beam Ray schematic would have worked with John Crane's addition of the second variable RF oscillator. This test was the key to understanding how Philip Hoyland's Laboratory instrument and Rife Ray #4 instrument worked. I had always stated that Philip Hoyland had to have come up with his method using math because they didn't have any spectrum analyzers back in 1936. In looking back that test showed that the Rife Ray #4 was heterodyning in the ray tube. Though we now know the heterodyning method was not used by Dr. Rife the method of connecting the ray tube up to two RF oscillators showed that this was the method used with the Rife Ray #4 which had two RF oscillators.

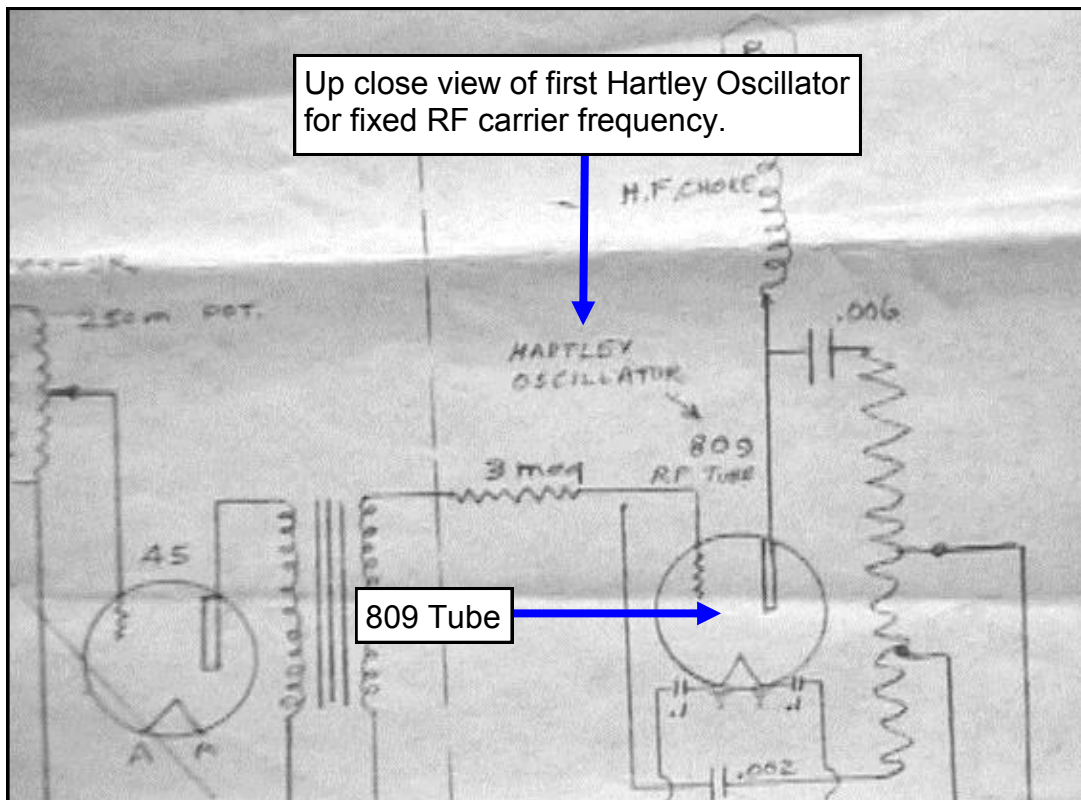
We will now show how Philip Hoyland's Rife Ray #4 and Beam Ray Laboratory instrument worked. We can do this because we have been able to rebuild these instruments from the Gruner schematic. This information should be of great interest to all who have been interested in Dr. Rife's work.

## **Rebuilding the Philip Hoyland Beam Ray Laboratory instrument**

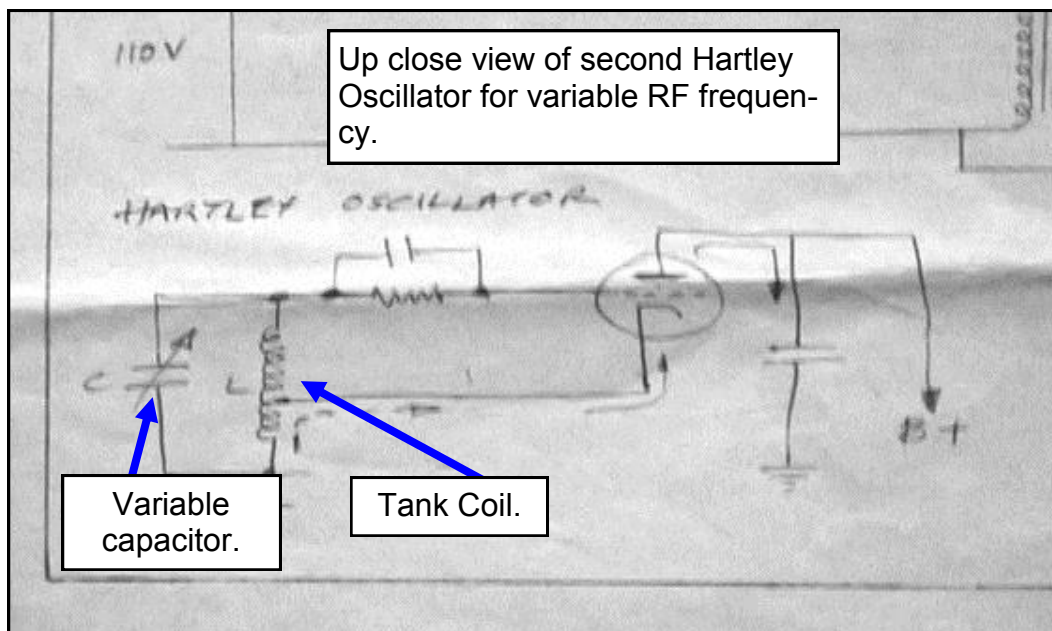
When this schematic was analyzed Mr. Peters noticed that the British group had overlooked a second Hartley RF oscillator that was in the lower-left corner of the Gruner schematic. This was the variable oscillator that John Crane added to the schematic after he received it from Dr. Gruner. At this time we did not know that this second oscillator was not a part of the original schematic. The British group believed this oscillator was the same RF fixed Hartley Oscillator that used the 809 tubes. Below is a photo of the complete Gruner Beam Ray schematic.



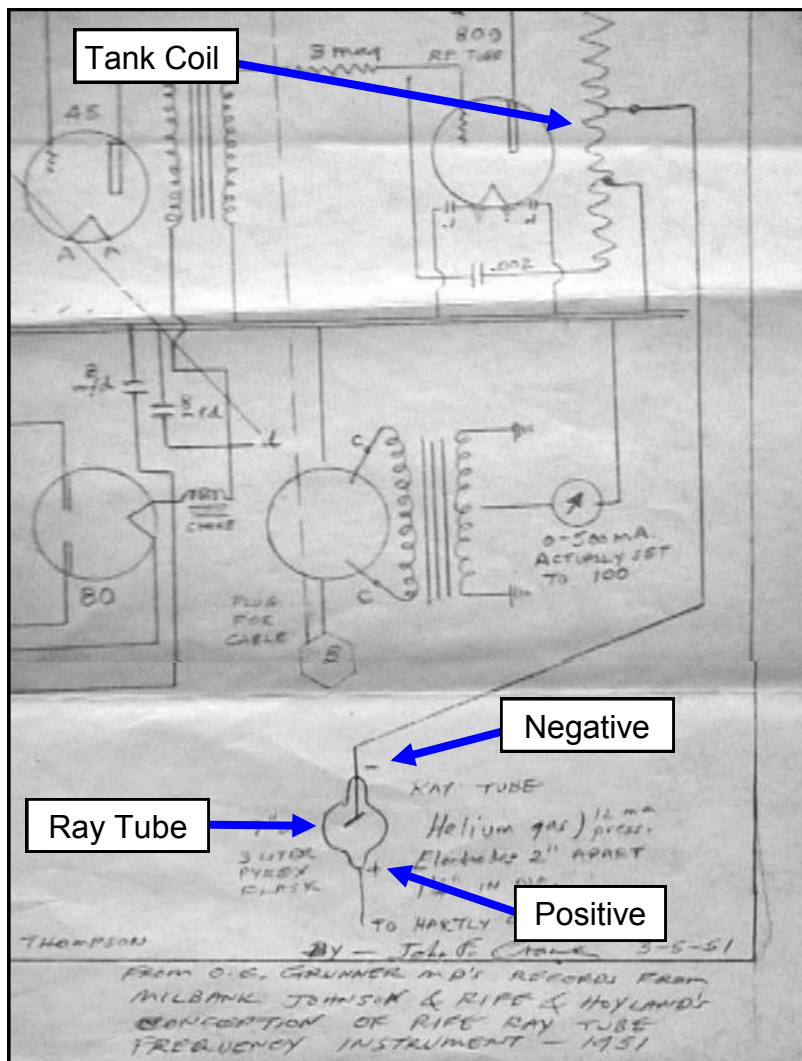
In next schematic photo, shown below, is the fixed RF carrier frequency section that used the 809 tube.



The next schematic photo, shown below, is the second oscillator that was overlooked by the British group. This was the oscillator that John Crane added to the schematic which caused us to misinterpret how the instrument worked. You will notice that the second oscillator that John Crane added says "Hartley Oscillator." Because the first fixed oscillator that used the 809 tubes is a Hartley Oscillator the British group assumed that both of these oscillators were the same. This overlooking of the second oscillator that John Crane added would have made the instrument work exactly as Dr. Gruner had stated his instrument worked. Dr. Gruner stated that the instrument was fixed on one frequency. It was the overlooking of this second Hartley oscillator, added by John Crane, that Mr. Peters noticed. If you look at the second Hartley Oscillator, in the photo below, that does not use the 809 tubes, you will notice that it has a variable capacitor. This variable capacitor shows that there were two Hartley Oscillators shown on the schematic. One fixed and one variable.



The next schematic photo, shown below, shows that the first fixed Hartley Oscillator was connected from the tank coil to the negative side of the ray tube. If you look closely at the photo you will notice that the positive side of the ray tube was also to be connected to a Hartley Oscillator.



If you hooked the positive side of the ray tube back up to the same fixed Hartley Oscillator it would have only output one frequency as described by Dr. Gruner. This adding of the second oscillator, by John Crane, is why there was confusion on how this instrument worked. The positive side of the ray tube was supposed to be hooked back up to the same fixed oscillator. But with the adding of the second variable Hartley Oscillator, by John Crane, would mean that the positive side of the ray tube would have been hooked up to the second Hartley oscillator. This would have made it so the ray tube would be connected between the two Hartley Oscillators. The negative side of the ray tube connected to one oscillator and the positive side of the ray tube connected to the other oscillator.

The second Hartley Oscillator was also an RF Oscillator. It had a tank coil and a variable capacitor for changing the RF frequencies. Anyone looking at this schematic will notice that it does not have any variable audio oscillator. Philip Hoyland's Beam Ray Gruner instrument was using an RF frequency not an audio frequency. This would logically mean that Dr. Gruner was using one of the Rife Ray #4 frequencies. Because Dr. Gruner was working on the cancer organism of [Cryptomyces Pleomorpha fungi](#) his instrument was most likely set on that organisms frequency.

Because we did not know that John Crane had added this second oscillator we came to the conclusion that the logical way to build the instrument would have been to have had two Hartley Oscillators using the 809 tubes. So this is the way that we rebuilt the instrument. By using the method of connect-

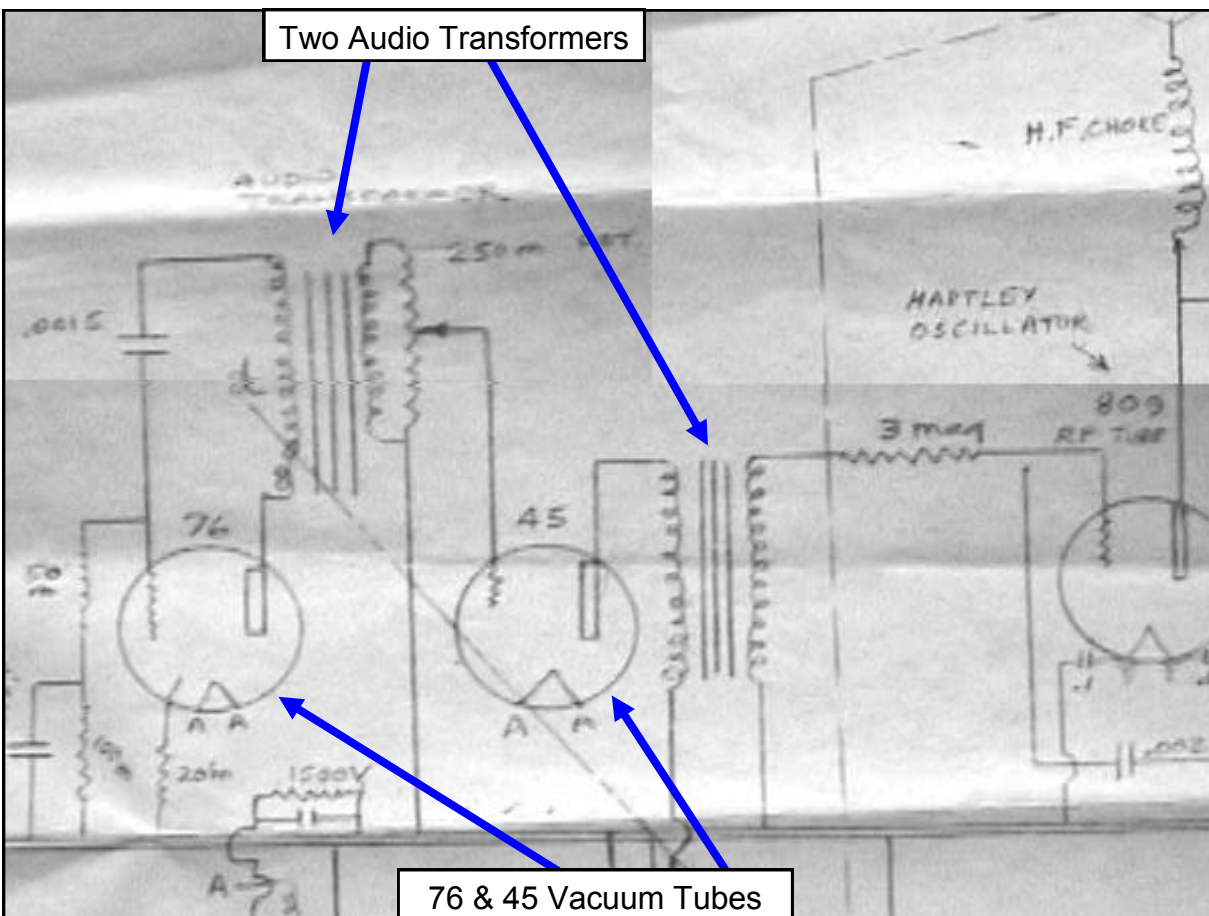


ing the ray tube between the two Hartley Oscillators, both variable, the instrument could output two high RF frequencies at the same time without the bandwidth problems that would have come with trying to modulate frequencies through a tank coil. The tank coil in the Beam Ray Clinical instrument can only pass modulated frequencies up to about 250,000 Hertz. Because we put the ray tube between the two Hartley Oscillators and found that the instrument could work this way we determined that Philip Hoyland most likely built the Rife Ray #4 and Beam Ray Laboratory instrument in this same way. Our instrument could output two frequencies at the same time.

The Beam Ray Laboratory instrument probably had some band switches like the Rife Ray #4. What the frequency range of this Beam Ray Laboratory instrument was is not known but it would have gone up to at least 1.80 MHz like the Rife Ray #3 Kennedy equipment did. Dr. Rife's Rife Ray #3 and Rife Ray #4 machines put out specific frequencies and this instrument, it appears, was built to do the same thing. If Dr. Rife wanted 1,604,000 Hertz he would set the oscillator to 1,604,000 Hertz. This was the type of instrument Dr. Rife used. When you look at the case of the Laboratory instrument it is a large case that could have easily held the necessary components for this instrument. The instrument would have had two large dials on the front of it. In the photo, shown at the beginning of this chapter, the pole that holds the ray tube is blocking part of the panel where we would expect to see the second dial for the second oscillator.

### The modulated Audio Frequency pulsing circuit

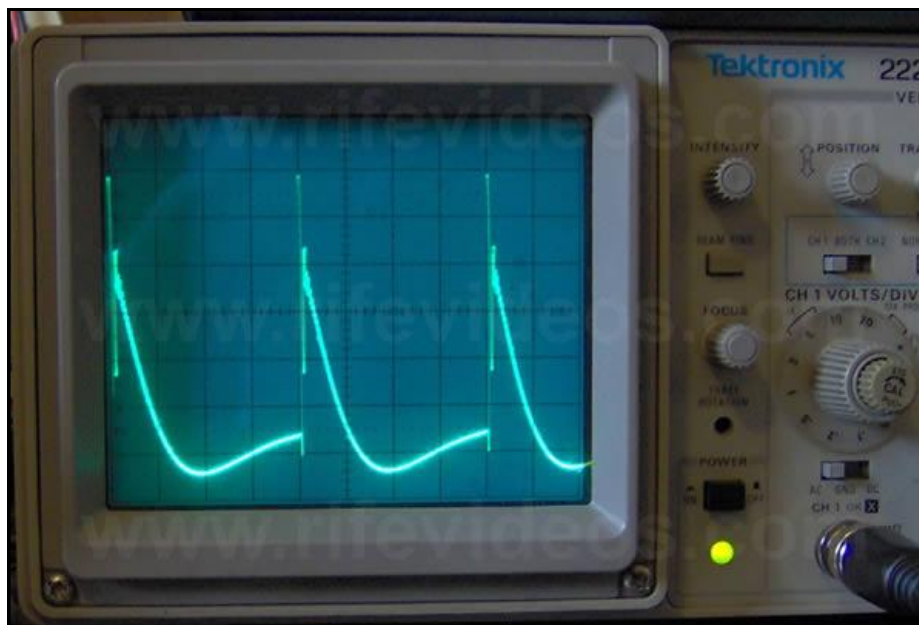
In this report, in the previous chapters, we have mentioned a fixed audio frequency pulsing circuit. We will now cover it in more detail because the Beam Ray Gruner instrument had this circuit in its schematic. This circuit pulsed the high RF frequencies. We know it was important because it was considered the secret that made the instrument work. If you look at the next schematic photo, shown below, you will see two audio transformers. This is the only indication of any audio frequency used in Dr. Gruner's instrument.



It was not a variable audio oscillator but it was for a single fixed audio frequency. The 76 and 45 vacuum tubes along with the two audio transformers make up this circuit. Mr. Peters built this section and found that the frequency was at about 1330 Hertz and it pulses, through modulation, the fixed Hartley Oscillator RF carrier frequency that used the 809 tube. The next two photos, shown below, is this rebuilt circuit.



This 1330 Hertz frequency could have been a little higher or a little lower frequency because he used modern transformers instead of the original 1940's transformers. This pulsing frequency is a lot faster than the eye can see so no one would know it was in the instrument. If you look at the next photo, shown below, you will see the waveform of the pulsing frequency. It resembles a damped wave minus the ring oscillations of a true damped wave.



This waveform also looks like the waveform of the Rife Ray #4. This waveform would produce the effect that John Crane mentioned as he narrated Dr. Rife's 1936 Lab video:

**CRANE:** *"Now the spikes that you see on the frequencies are the lethal part that kill and devitalize the virus. They are the resonant peaks of the frequencies which increase the voltage to a very high potential which the cells of the virus wall can not tolerate and they break up into many pieces and are destroyed."* ([Dr. Rife's Lab Film Narrated by John Crane in the 1970's](#)).

It's doubtful that this understanding of the spikes would have been something that John Crane would have known anything about had Dr. Rife not told him about it. From the statements we have read the resonant frequency of an organism is not enough to devitalize it. It's apparent that an organism's resonant frequency will not harm it unless the resonant frequency is pulsed through modulation with a waveform that produces a high potential voltage rise. It also appears that this modulated audio pulsing circuit would have been necessary for all of Dr. Rife's high RF frequencies. Logically this same type of circuit would have been in Dr. Rife's Rife Ray #3 and Rife Ray #4 and this is why the Gruner instrument also had this kind of circuit built into it. Also, logically his Beam Ray Laboratory instrument had this circuit.

In the previous chapter of this report when we covered the original Beam Ray clinical instrument. We showed that a sine wave audio frequency modulated onto a carrier frequency, in this M.O.P.A. style instrument, was sufficient enough to create the necessary pulse to devitalize the various microorganisms. The analyzing of that Beam Ray Clinical circuit showed that it almost creates a square wave frequency. The Beam Ray Clinical instrument output variable audio frequencies well above 10,000 Hertz. This indicates that the pulse rate of the modulated audio frequency is not important, only that the high RF frequency is pulsed.

There is another important effect that happens to the plasma of a ray tube when you pulse it with a low audio frequency of a damped shaped waveform or square wave waveform. Because the duty cycle is very low it allows deionization of the plasma which makes it possible for the very high potential voltage rise to be emitted from the ray tube. A square wave audio frequency of a 50% duty cycle should be just as effective as a damped waveform. A square wave has the same high potential voltage rise on the leading edge as this damped wave. Philip Hoyland found that even a sine wave frequency was sufficient to achieve the same result when used in the M.O.P.A circuit. His Beam Ray Clinical instrument circuit was modulated with a sine wave audio frequency that produced a waveform that almost looks like a square wave waveform and that waveform would devitalize the organisms. The next photo, shown below, is that waveform. We are showing this waveform so that the reader will understand what we are talking about.



This all indicates that an audio frequency modulation with a high RF frequency is what makes the frequencies work on microorganisms. The waveform of the audio frequency whether it is a damped wave or square wave makes no difference in its effectiveness because both of these waveforms have been used in Dr. Rife machines.



The next photo, shown below, is a picture of Dr. Rife's waveform from his Rife Ray #4 Rife Machine. We showed this waveform in a previous chapter but we need to show it again. This waveform came from Dr. Rife's 1939 lab film. The lab film shows that he put a metal plate about 3" X 8" under the ray tube and ran his oscilloscope lead to it so he could read the frequencies. This photo shows the type of waveform he was using to devitalize organisms. It also matches the waveform produced by the 76 and 45 vacuum tubes in the Gruner instrument we are looking at in this chapter. We now know from the rebuilding of Dr. Gruner's instrument and from the analyzing of the Beam Ray Clinical instrument, the two waveforms that were used, how they were created, and the method that should be used for doing M.O.R. research.



Both Mr. Peters and I rebuilt the Gruner instrument using two variable RF oscillators. We did not put the various bands in it like the Rife Ray #4 or the Beam Ray Laboratory instrument because we first believed it was a heterodyning instrument. Now that we know that Philip Hoyland's Beam Ray Clinical instrument used upper harmonics of the Rife Ray #4 frequencies it doesn't seem necessary that we put the different bands into the instrument. Our instruments will probably be adjusted so we can cover a range from about 1 MHz to about 4 or 5 MHz. Then we will multiply up the Rife Ray #4 frequencies into these ranges, as Philip Hoyland did with the Beam Ray Clinical instrument, and use them with this instrument. Other than John Crane adding the second Hartley oscillator the Gruner schematic was a complete schematic. The pulsing circuit was drawn correctly and worked. It also showed how Dr. Rife produced the damped waveform which pulsed his high RF frequencies in his instruments.

Mr. Peters built his instrument using 805 tubes and I built my instrument using 812A tubes. The AZ-58 Beam Ray Clinical replica RF section was almost exactly the same (809 vacuum tube replaced with the more powerful 812A tube) as the Gruner circuit. The reason I built the Gruner instrument using the 812A tubes is because the 809 is no longer being manufactured. We were also able to replace the modulated pulsing circuit consisting of the 45 & 76 tubes with a single high voltage switching transistor driven with a function generator which outputs the 1330 Hertz pulse frequency. With the use of this transistor we can use any audio frequency we want to use. Using this transistor we believe makes the design better because we can output all the lower audio frequencies including the original audio frequencies used in the AZ-58. My instrument has two Vernier dials which allows me to output two high RF frequencies at the same time like the Rife Ray #4 did. The ray tube is connected to both tank coils instead of having one side of the ray tube go to ground. It is the connecting of the ray tube between the two RF oscillators that makes this design work like the Rife Ray #4 would have done.

**Please Note:** There is a modern instrument built today that is called the "Beam Ray." It works nothing like this original 1930's Beam Ray Laboratory instrument built by Philip Hoyland. We are not saying anything negative about the modern Beam Ray instrument but some people have asked us if these instruments work on the same principles and frequencies and they do not. We have only given this information so people are not confused about these two instruments.

On page 128 are photos of Mr. Peters's instrument which he built. On pages 129 through 131 are the photos of the Gruner instrument that we built. Because John Crane altered the schematic by adding the second oscillator we built this instrument with two oscillators. I built mine with two variable RF oscillators which made it work like the Rife Ray #4 and the Beam Ray Laboratory instrument. For this reason, we refer to this instrument, in the photos below, as the Laboratory instrument.

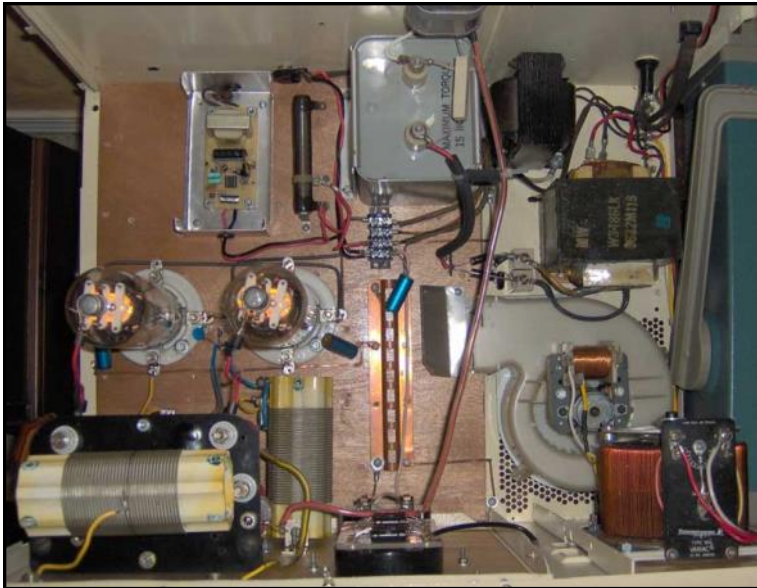
On page 132 is a redrawn schematic of this design. We replaced the smaller vacuum tube of the second Hartley Oscillator with the 809 tube. The layout of the electronic parts of this instrument is very important because of the inherent interference problems that come with RF oscillators. Anyone wanting to build this instrument should have a good understanding of old tube technology. Some parts of this circuit use up to 2000 volts DC with substantial current and can easily kill anyone not experienced in working with this kind of current or voltage. We take no responsibility for anyone who builds this instrument. We recommend that you have professional help.

**CHAPTER SUMMARY:** Dr. Gruner's machine was built to be set on one high RF frequency. It had no variable audio oscillator and did not work on the sideband method developed by Philip Hoyland. It had a fixed audio pulsing circuit that modulated the high RF frequency causing a high potential voltage rise in the waveform of the RF frequency being outputted to the ray tube. Because it used only one high RF oscillator it would have been set on Dr. Rife's high RF frequency for the organism Dr. Gruner was working on.

The Beam Ray Laboratory machine was built to work like the Rife Ray #4. It was built to be used in a laboratory for doing M.O.R. work on microorganisms. It would not have been built like the Rife Ray #5 or Beam Ray Clinical instrument which worked on harmonic sidebands. The Beam Ray Clinical instrument would not have worked in a laboratory setting since it devitalized all of the organisms in Dr. Johnson's laboratory due to the many sideband frequencies it would output.

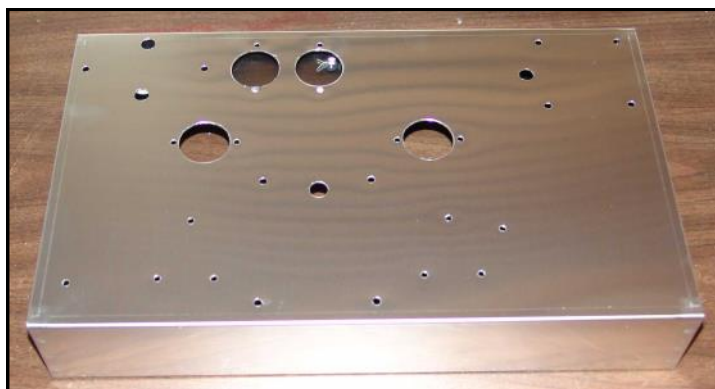
In chapter 11, we will look at the next original Rife Machine replica that was purchased by Aubrey Scoon and his British Rife group.

Mr. Peters' photos of the rebuilt Beam Ray Laboratory instrument

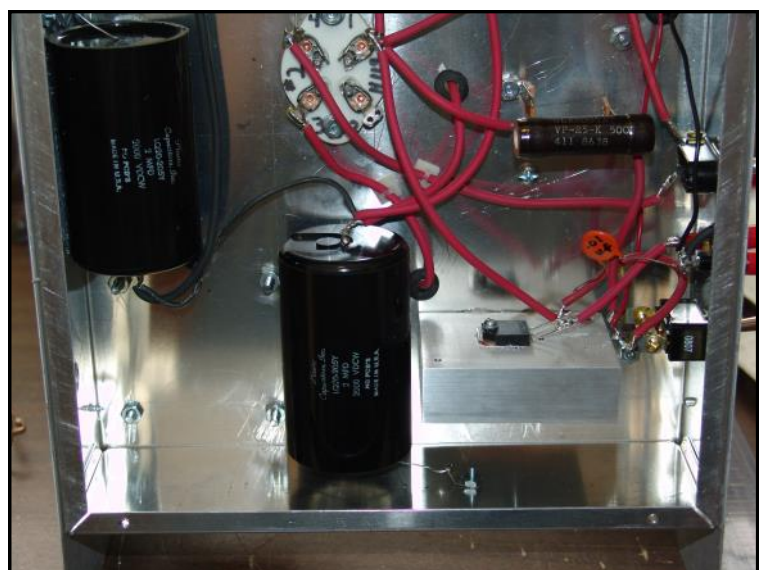
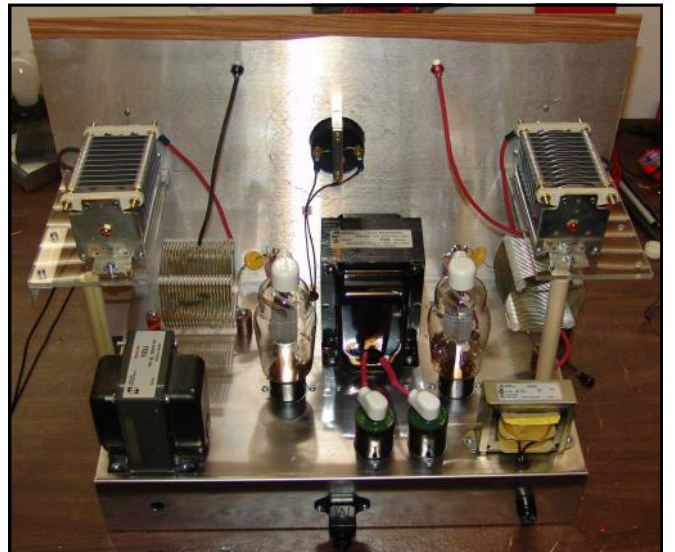
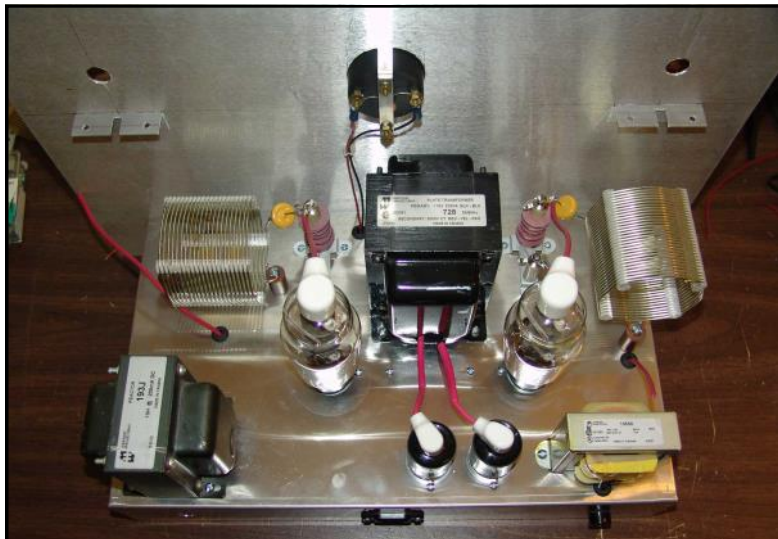
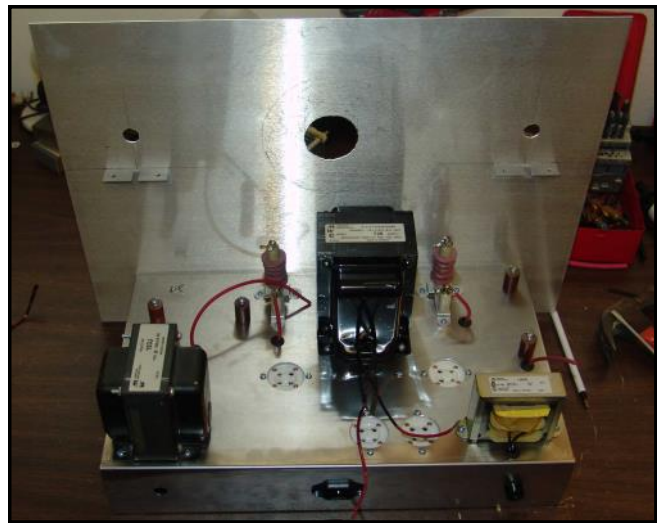
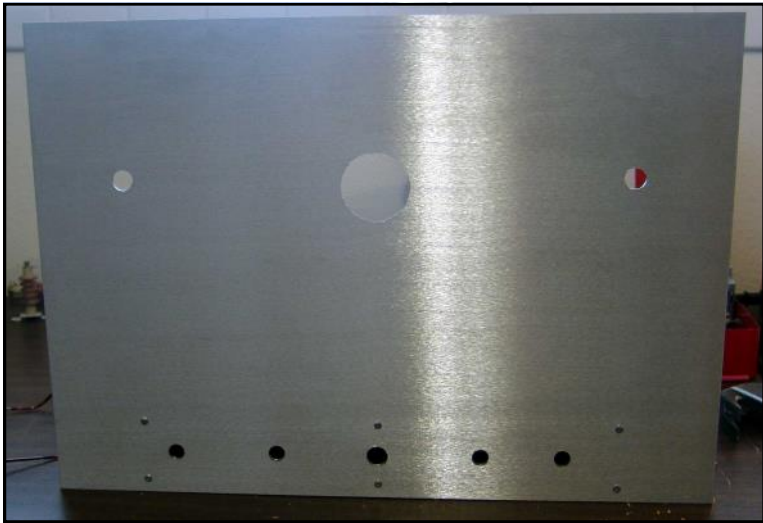




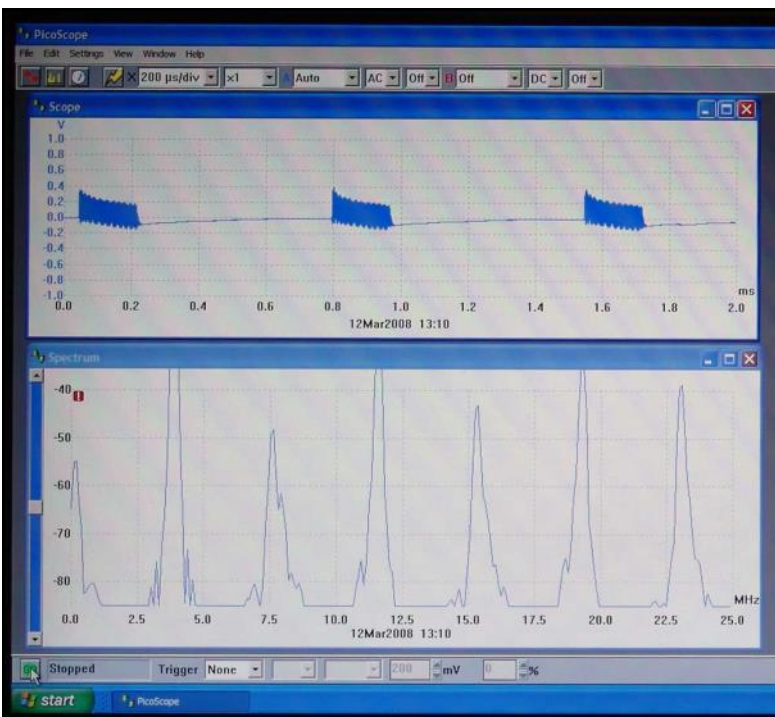
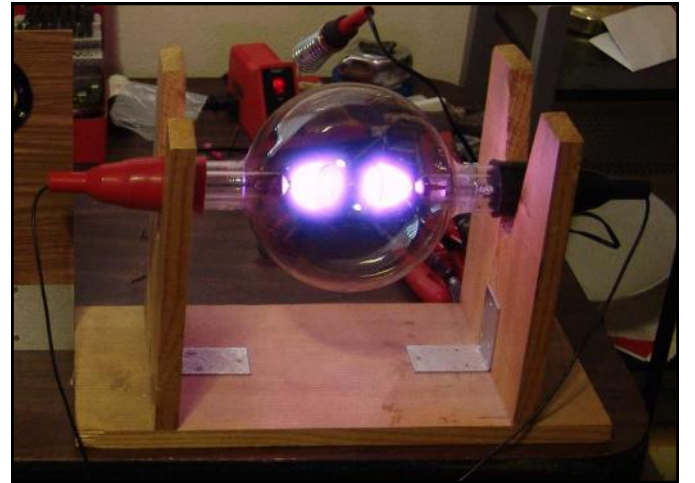
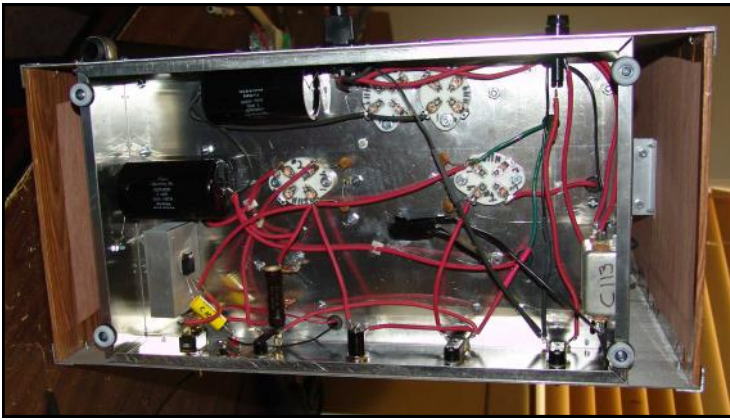
## Photos of the rebuilt Beam Ray Laboratory instrument



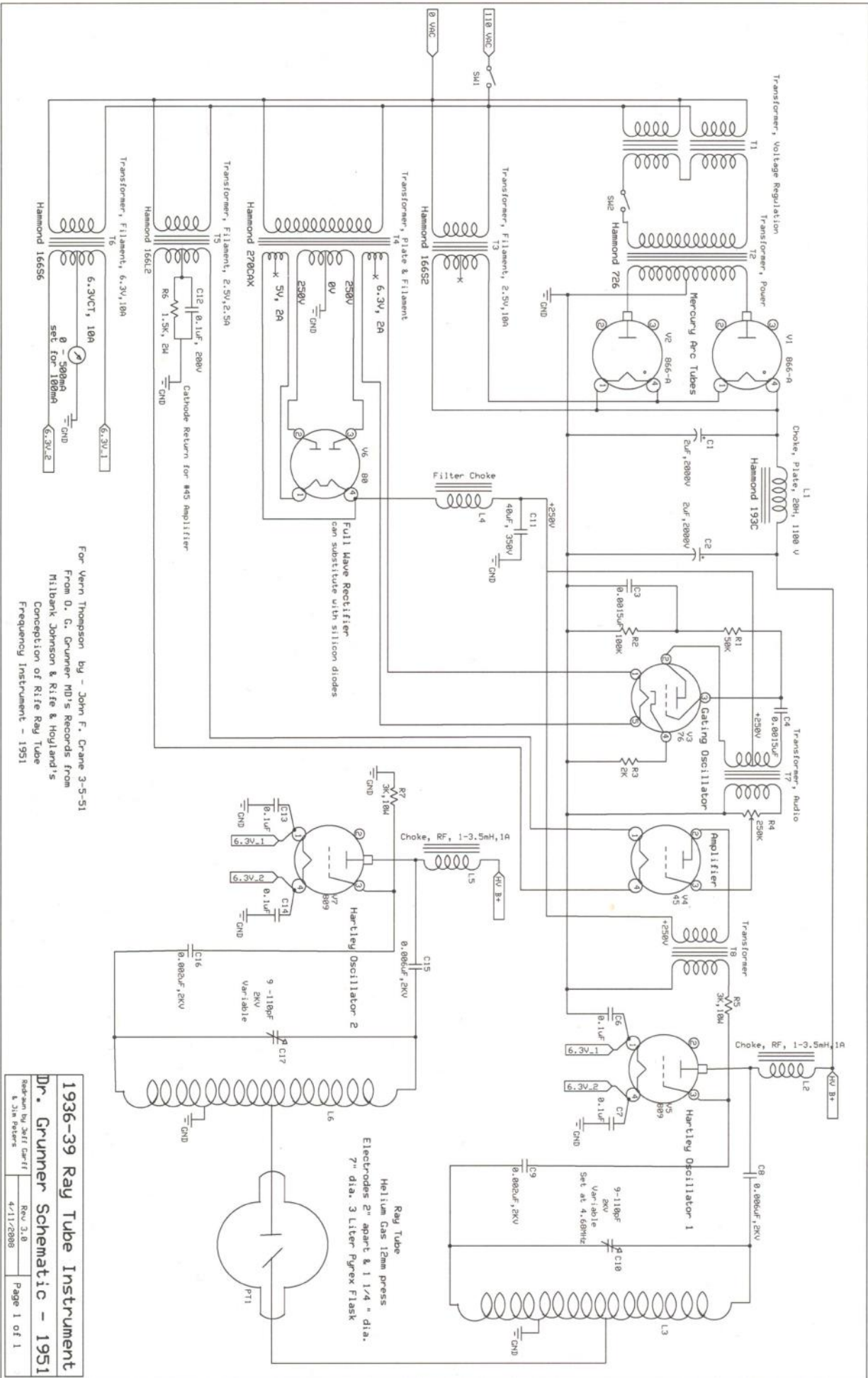












For Vera Thompson by - John F. Crane 3-5-51  
 From O. G. Gruener MD's Records from  
 Milbank Johnson & Rife & Hoyleland's  
 Conception of Rife Ray Tube  
 Frequency Instrument - 1951

**1936-39 Ray Tube Instrument**  
 Redrawn by Jeff Garoff Rev. 3.0  
 & 2015 Edits 4/11/2008 Page 1 of 1

## Chapter #11

### Aubrey Scoon's Beam Ray replica Rife Machine Re-evaluation



1. Used a ray tube.
2. Used a fixed 3.30 MHz RF carrier frequency.
3. Modulated sine wave audio frequencies onto a sine wave RF carrier frequency.
4. Power usage was about 460 watts. Output to the ray tube about 40 watts.

In 2009 Aubrey Scoon passed away. His web site remained up on the web until the domain name expired. Since his web site is no longer available and is an important part of this chapter, including this report, we have included all of his information pertaining to his machine on the [www.rifevideos.com](http://www.rifevideos.com) web site. To fully understand this chapter we suggest that you read Aubrey's information about his Beam Ray replica instrument at this web address:

[http://www.rifevideos.com/aubrey\\_scoons\\_1939\\_rife\\_beam\\_ray.html](http://www.rifevideos.com/aubrey_scoons_1939_rife_beam_ray.html)

Aubrey Scoon's 1950's Beam Ray Clinical replica Rife Machine was originally mistaken for an original 1938-1939 Rife Ray #5 or Beam Ray Clinical instrument built by Philip Hoyland and the Beam Ray Corporation. We now know that it was not an original Beam Ray instrument built by Beam Ray Corporation but it is an exact replica of that instrument. It was originally for sale on [www.rife.org](http://www.rife.org). John Bedini and a group of men who had worked with John Crane for one and a half years considered purchasing it. After careful examination of the information available, at that time, they concluded that this instrument was not an original Beam Ray instrument built by the original 1938-1939 Beam Ray Corporation. They concluded that it was built later, perhaps, in the 1940s by Dr. Rife's engineer, Verne Thompson. Verne Thompson eventually replaced Philip Hoyland as Dr. Rife's new engineer and he was building instruments during the 1940s and 1950s for doctors that wanted Dr. Rife's machines.

The reason we are re-evaluating Aubrey Scoon's Rife Ray #5 or Beam Ray Clinical replica instrument is this instrument is the second most important instrument that we have analyzed. When it was first analyzed by Aubrey Scoon's team they did not take their original evaluation of this instrument far enough. Had they used a spectrum analyzer there is a possibility that they may have figured out

how this instrument really worked, but they did not. Once we determined how the ["Original Rife Ray #5 or Beam Ray Clinical"](#) instrument worked we were able to re-evaluate Aubrey Scoon's Beam Ray replica and show that it worked on the same principles and frequencies as the original Beam Ray Rife Machine obtained from Dr. Low. All of Dr. Rife's instruments, from the first to the last, worked on the same principles and the same high RF frequencies, or higher harmonics of Dr. Rife's original frequencies. The method of generating the frequencies may have changed but all the frequencies used in Dr. Rife's machines were based on the original frequencies he found that would eliminate, deactivate or devitalize those organisms he worked on in his laboratory.

For a better understanding of Aubrey Scoon's Beam Ray Clinical Rife Machine we need to give the history of it. Aubrey Scoon and a group of men from England purchased the above instrument believing it was an original Beam Ray Clinical instrument built by the 1938-1939 Beam Ray Corporation. The original Beam Ray Clinical instrument was known to be working on harmonics. Without really knowing it, they purchased a replica of the Beam Ray Clinical instrument. At that time no original instrument had been located. Because of this and the fact that we had no absolute concrete evidence that Dr. Rife's engineer, Philip Hoyland, built this style of audio frequency instrument it was not fully accepted as a genuine Rife instrument. Not even the later 1953 AZ-58 Beam Ray Clinical replica was accepted as a genuine instrument either.

A few years ago, before Aubrey passed away, I was communicating with him about this instrument. In the course of our communications, he told me that he believed he had used the wrong main output vacuum tube in the instrument when they worked on it. Because they believed they had used the wrong vacuum tube (812a vacuum tube) the carrier frequency had parasitic oscillations that created harmonics. He said that when they discovered this mistake they put what they believed was the proper tube (809 vacuum tube) in and most of the harmonics from the parasitic oscillations were gone. Aubrey Scoon mentions the change of this tube (809) on his web site. But they did not change the photos of the waveforms so we do not know how much the waveform really changed. This much we do know all of the photos of the waveforms on his web site are of an instrument that has parasitic oscillations. Using the wrong tube was a simple mistake that anyone could make but it led to a great deal of confusion causing many to believe, including myself, that this instrument was, an original Beam Ray Clinical instrument because of those parasitic oscillations. We believed these parasitic oscillations created the harmonics which the original Beam Ray Clinical instrument was supposed to be working on.

Both Jim Berger and I separately built Aubrey Scoon's instrument with the correct vacuum tubes (812a) and found using an oscilloscope that the RF output was clean of any parasitic oscillations. In our tests the 812a vacuum tube produced no harmonics like those seen in Aubrey Scoon's photos. At this time it confirmed to us that if the circuit was working correctly there would be no parasitic oscillations or harmonics from parasitic oscillations. The building of this instrument also showed that it didn't have the reported harmonics which the genuine Beam Ray Clinical instrument was supposed to have. Little did we know, at that time, that the harmonic concept we were looking for was there but we didn't really understand how the instrument was supposed to work. This wrongly convinced both Jim Berger and I that Aubrey Scoon's instrument was not a genuine Beam Ray instrument. Nevertheless, this mistake does not change the fact that we now know that this instrument is a genuine Beam Ray machine replica.

At a later date when both the 809 and 812a vacuum tubes were tested in the circuit neither tube created the same kind of waveforms as Aubrey Scoon's machine was producing. This proved to us that the parasitic oscillations are due to some other problem in the RF circuit of his machine. It was also determined that the 812a vacuum tube was the correct tube that should be used, not the 809 vacuum tube. The 812a vacuum produces the correct carrier frequency which should be used with the audio frequencies Aubrey Scoon's instrument used.



The original Beam Ray Clinical instrument built by Beam Ray Corporation that we obtained from Dr. Low did not have any frequency list that came with it showing us what frequency band or dial settings should be used for the various microorganisms. However, Aubrey Scoon's Beam Ray replica instrument built by Verne Thompson came with a list of frequencies which the doctor used on the various organisms. It is this list of frequencies that makes this instrument so important.

We know from the previous documents that we have read in this report that Dr. Rife had Verne Thompson rebuilding and repairing these instruments. We also read that Dr. Rife had Verne Thompson rebuilt Dr. Yale's machine in 1940. Because Verne Thompson became Dr. Rife's engineer he would periodically repair Dr. Couche's and Dr. Tulley's machines. We also know that Verne Thompson was making copies of Dr. Couche's Beam Ray Clinical instrument for other doctors. With this understanding, we know that Verne Thompson was the one who would have written down these audio frequencies that were used in Aubrey Scoon's Beam Ray Clinical instrument. Also with this understanding, we know that the same audio frequencies used in Aubrey Scoon's Beam Ray Clinical instrument were used in Dr. Couche's Beam Ray Clinical instrument. This information is very important. The importance of this information will become very clear as we continue to look at this instrument and the [1953 AZ-58 Beam Ray Clinical Replica instrument](#).

Since this paper was updated on 9/20/2010 we decided to test a 3.30 MHz RF carrier frequency believing that it could have been the correct RF carrier frequency. When Aubrey Scoon first tested the instrument with the 812a vacuum tube (not the 809 vacuum tube) he listed 3.33 MHz as the RF carrier frequency on his website. Knowing how parasitic oscillations in an RF carrier frequency could easily have shifted the carrier frequency 30,000 Hertz, it was thought that a 3.30 MHz RF carrier frequency would have been a more logical frequency to use. This assumption proved to be correct. In the summer of 2011, we obtained more of John Marsh's documents from his nurse. In one of these documents dated November 20, 1967, John Marsh stated the following:

**MARSH:** *John Crane's, a simple oscillator, which can be obtained easily for about \$33.00. It produces a fuzzy band. He experimented with hooking up wires with an ordinary radio speaker and produced a different musical note for each frequency. The large instrument [Beam Ray Clinical replica instrument] is a RF frequency generator which carries wave oscillations at 3300 kilocycles (3.3 Megahertz) on the marine band. Pre-auditory sound waves. [\(John Marsh 1967 document about Dr. Robert P. Stafford\)](#).*

This letter of John Marsh's confirms that the RF carrier frequency in the original Rife Ray #5 or Beam Ray Clinical instrument, which Dr. Rife, John Crane, and John Marsh made a replica of in 1953, was set at 3.30 MHz. This also confirms that the 812a vacuum tube is the correct tube. It also confirms that the original reading done by Aubrey Scoon of the RF carrier frequency of about 3.30 MHz (3.33 MHz) was a correct reading. It was only slightly off due to the parasitic oscillations.

As mentioned before, Aubrey Scoon's instrument had four bands. These four bands were mentioned by Philip Hoyland in the Beam Ray Trial. He stated that they covered all the frequencies for the various organisms this instrument treated. The frequency range of each of the four bands is as follows:

**Band 1: 20 Hertz to 200 Hertz.**

**Band 2: 200 Hertz to 2000 Hertz.**

**Band 3: 2000 Hertz to 20,000 Hertz.**

**Band 4: 20,000 Hertz to 200,000 Hertz.**

Our original Beam Ray Clinical instrument, along with Aubrey Scoon's Beam Ray replica instrument design, predates John Crane and John Marsh and this reveals that the audio frequencies came from Philip Hoyland, not John Crane or John Marsh. This Aubrey Scoon Beam Ray replica instrument also shows a connection to the original 1938-1939 Beam Ray Clinical Rife Machine and the audio frequencies that were used in the 1953 AZ-58. This AZ-58 instrument will be discussed in greater detail later in this report. The 1953 AZ-58 Beam Ray replica instrument used almost the same frequencies as Aubrey Scoon's instrument except Crane and Marsh divided them down by a factor of 10 times and used these lower audio frequencies in the AZ-58.

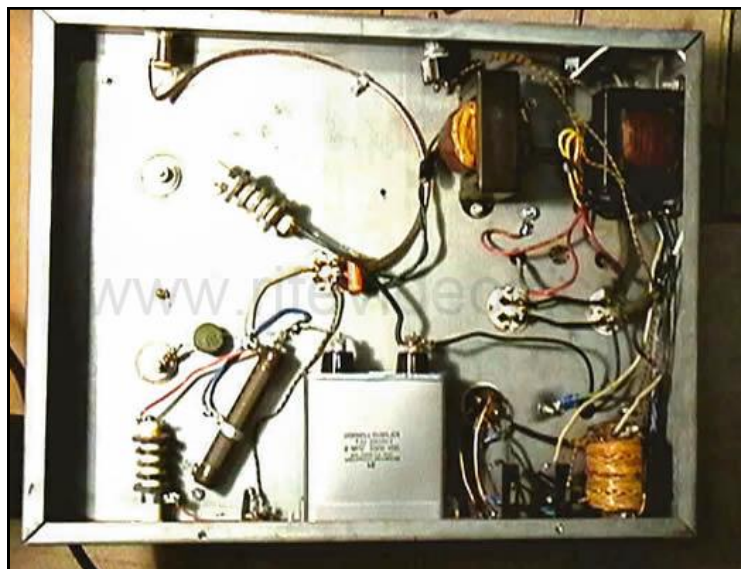
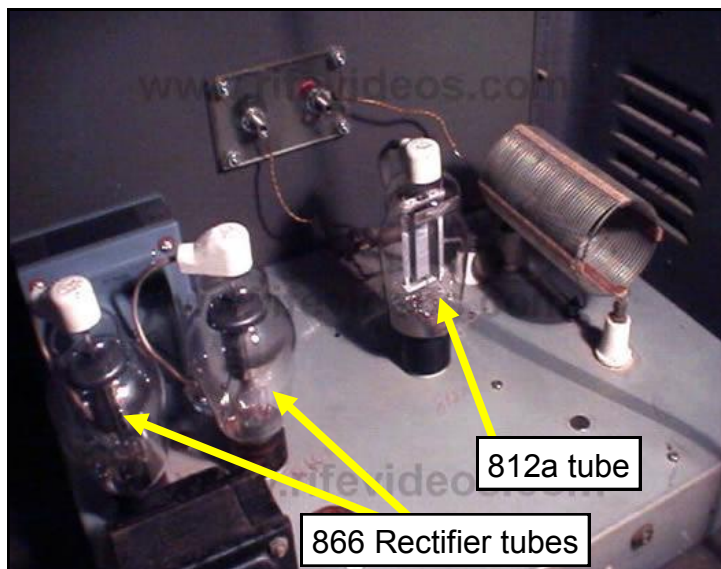
Below is a chart that has the audio sideband frequencies that were used in Aubrey Scoon's Beam Ray Clinical replica instrument. It was these frequencies that John Crane and John Marsh lowered to get the audio frequencies they used in the 1953 AZ-58. We will reconcile these frequencies in this chart to Dr. Rife's original high RF frequencies that were used in the [Rife Ray #3](#) and [Rife Ray #4](#) Rife Machines in this section of this report. Before we do this we need to compare Aubrey Scoon's Beam Ray Clinical replica to the original Beam Ray Clinical Rife Machine which we obtained from Dr. Low.

The list of audio frequencies, shown below, of Aubrey Scoon's Beam Ray replica sine wave audio frequencies, must be used with a 3.30 MHz RF carrier frequency. Testing of this 3.30 MHz RF carrier frequency showed that this was the correct carrier frequency for this instrument. It was this testing with the 3.30 MHz RF carrier frequency in combination with the audio frequencies which produced the correct sideband frequencies that hit the Rife Ray #3 and Rife Ray #4 higher harmonic frequencies.

What we need to point out here is this **IMPORTANT** fact which came from the analyzing of the original Beam Ray Clinical instrument. This fact also applies to Aubrey Scoon's Beam Ray replica instrument. Neither the 3.30 MHz RF carrier frequency nor the audio frequencies will do anything by themselves. But when the 3.30 MHz RF harmonic carrier frequency and the audio frequencies are combined together they will produce many sideband frequencies. And one of these sideband frequencies will line up with the true Rife M.O.R. frequency and devitalize or render harmless the harmful microorganism. To re-emphasize this so that no one misunderstands. If you just use the audio frequencies by themselves you will get nothing. If you use the 3.30 MHz RF carrier frequency without the audio frequencies you will get nothing. The audio frequencies used in Aubrey Scoon's instrument must have the RF carrier frequency of 3.30 MHz or they are useless. This is the reason the 1953 Beam Ray Clinical instrument called the [AZ-58](#) did not work properly. In the chart, shown below, are the audio frequencies used with Aubrey Scoon's instrument. It is these audio frequencies when combined with the 3.30 MHz RF carrier frequency that will produce Dr. Rife's higher harmonic M.O.R. frequencies. It must be understood that these audio frequencies were not meant to treat these organisms.

<b>Aubrey Scoon's Beam Ray Clinical Replica Audio Sideband Frequencies</b>			
B or E Coli Rod	8,020 Hz	Syphilis or Treponema	6,600 Hz
B or E Coli Virus	17,220 Hz	Tetanus	1,200 Hz
BX Virus Carcinoma	21,275 Hz	Tuberculosis Rod	8,300 Hz
BY Sarcoma	20,080 Hz	Tuberculosis Virus	16,000 Hz
Pneumonia or Spinal Meningitis	7,660 Hz	Typhoid Rod	6,900 Hz
Staphylococcus	7,270 Hz	Typhoid Virus	18,620 Hz
Streptococcus	8,450 Hz	Worms	2,400 Hz
Streptothrix	7,870 Hz		

The two photos below show Aubrey Scoon's RF section. The electronic components are almost identical to our original Beam Ray Clinical instrument. It used the same 866 rectifier tubes (two used) along with the 812a vacuum tube (one used).



Like the original Beam Ray Clinical instrument which used a Hewlett-Packard audio oscillator, Aubrey Scoon's Beam Ray replica instrument also used a Hewlett-Packard audio oscillator design. By design, we mean that this oscillator used an incandescent light bulb in the circuit (patented by Hewlett-Packard) which stabilized the audio oscillator frequencies and waveform which it output. In the next two photos, shown below, is Aubrey Scoon's Beam Ray Rife Machine audio oscillator. In the photo, below on the right, you can see the small incandescent light bulb.



In 1938 when the Beam Ray Corporation built this style of an instrument the Hewlett-Packard Wein Bridge audio oscillator was not invented yet. Since this newer Hewlett-Packard audio oscillator patent was not filed until July of 1939 and the Beam Ray Corporation was at this time in a court battle it is only logical that the original Beam Ray instrument did not use Hewlett-Packard's new design. It was invented in early 1939 and a patent was filed on July 11, 1939. [The patent was granted on Jan 6, 1942.](#)

In 1938 and 1939 the original Beam Ray Clinical instrument would have had an RC (resistor-capacitor) type of audio oscillator. These RC audio oscillators were known to be very unstable and it was replaced in the original Beam Ray instrument that we have with the newer Hewlett-Packard design. The audio oscillator section of the original Beam Ray Clinical instrument that we have has many

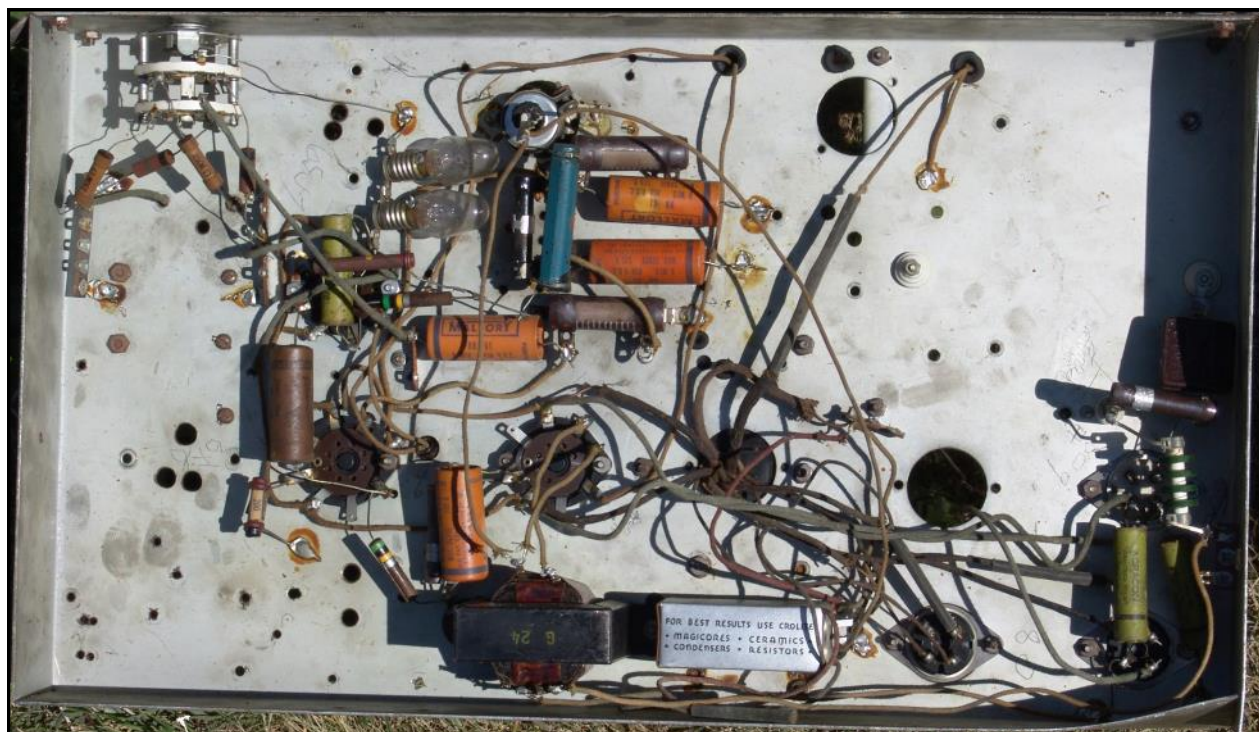


extra holes in the chassis and shows that modifications were made to update this instrument to the newer Hewlett-Packard design.

Aubrey Scoon in his evaluation of his Beam Ray replica instrument believed that his instrument was an original machine built by the 1938-1939 Beam Ray Corporation. He was correct that it was an original design but he was wrong about the year it was built. John Bedini was correct in his belief that it was not an original machine built by the 1938-1939 Beam Ray Corporation. The fact that the Hewlett-Packard design patent was not issued until 1942 should have indicated to Aubrey Scoon that his instrument was built later than 1939. Rather than accept that the patent had not been filed until July of 1939, and issue until 1942, he believed that Hewlett-Packard had somehow allowed Beam Ray Corporation the right to use their design before they even filed a patent on it. Of course, this does not make any sense since they could have lost any patent rights if they did this. Just this information alone should have indicated that this machine was not an original machine built-in 1938-1939.

### **Aubrey Scoon's audio oscillator update**

Roger Blain, who has a great deal of interest in this technology, uncovered some very important information about the manufacture date of the audio oscillator design that was used in Aubrey Scoon's instrument. If you look at the two photos, on the previous page, which shows both the underside and top view of the audio section of Aubrey's instrument you will notice that there are no signs of any retrofitting of the audio oscillator to a newer design. If it had been built in 1938 or 1939 then it would have had the original (RC) resistor-capacitor design which would have been replaced. It also would have shown obvious signs of the necessary changes needed to update the old style (RC) audio oscillator to the newer Hewlett-Packard design which it now has. The next photo, shown below, shows the underside of the audio oscillator of the original 1938-1939 Beam Ray machine obtained from Dr. Low.



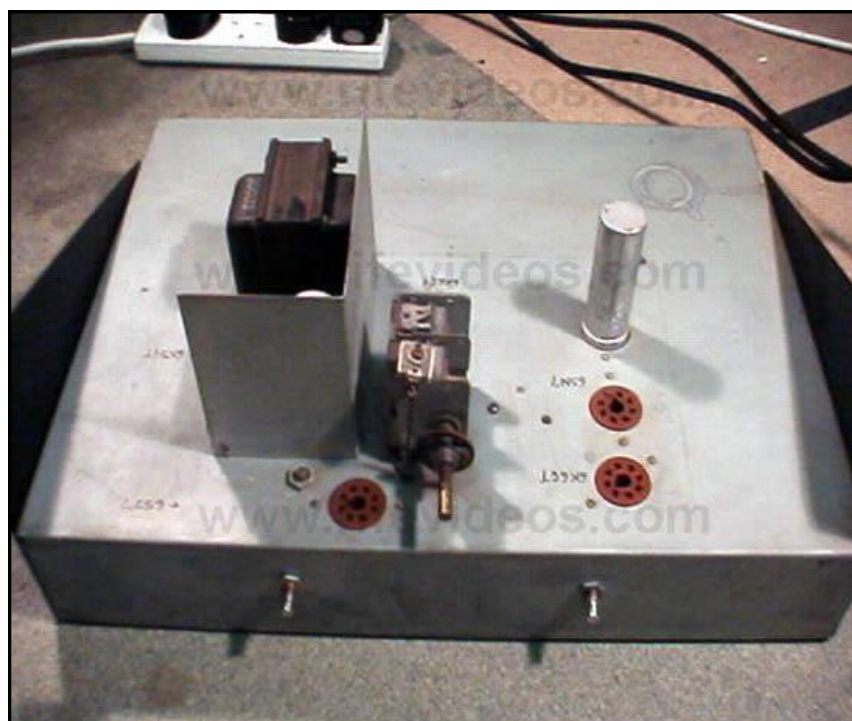
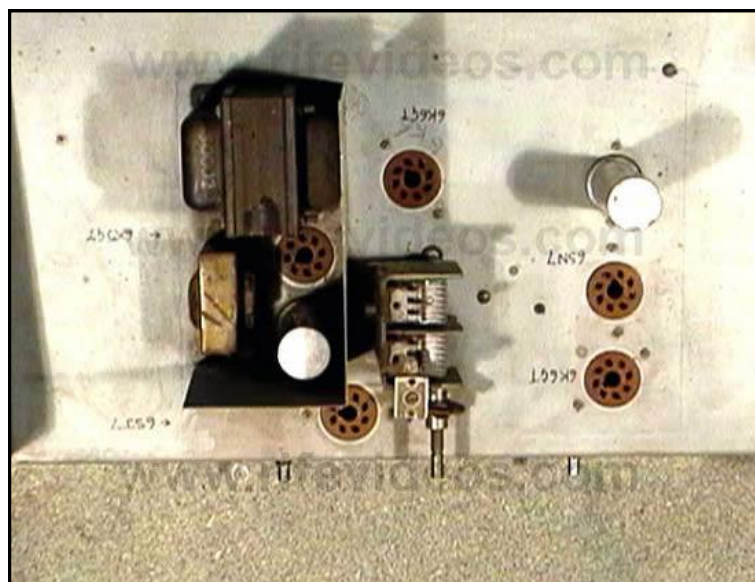
You will notice many small holes including two larger old vacuum tube holes (empty and without any vacuum tube sockets) in its chassis. This is what we would expect to see if an instrument's audio section had been replaced with the newer more accurate Hewlett-Packard design. The lack of any modifications to the audio section of Aubrey Scoon's instrument indicates that the instrument still has the original audio oscillator it was built with. Just this fact alone puts the building of his instrument after the original Beam Ray Corporation shut down in 1939.

Roger Blain decided that if he could determine which design of audio oscillator was used in Aubrey Scoon's instrument then the correct dating of that instrument could be determined. In his discovery work, he found that the audio oscillator that was used in the construction of this instrument was the EICO 377. Aubrey Scoon's instrument audio oscillator frequency range and the circuit design are identical to the EICO 377 including the component values, wiring and layout. The only thing that was left out was the double pole double throw switch that allowed for switching between square and sine waves. In addition to what Roger Blain discovered another discovery has been made. The Model SQ2 pad instrument which was built and sold by John Crane and John Marsh was also the EICO 377. All they did was change the faceplate and remove the sine/square wave switch so that it would be permanently on square wave. This new information leaves no doubts as to the approximate date Aubrey Scoon's instrument was built. This new information also firmly puts its construction date in 1952 or later instead of the 1939 date Aubrey Scoon gives in his report. The first photo, shown below, is the Rife Virus Microscope Institute instrument SQ2 EICO 377. The other three photos are of the EICO 377. You will notice on the two faceplates that the screw holes along with all switches, knobs and sockets perfectly line up.





Below are three more photos. The first photo, below on the left, again shows the top view of the EICO 377 component layout. The second photo, below on the right, shows the layout of Aubrey Scoon's audio oscillator. Looking at both of these two photos you can see that the layout is identical. The third photo is a slightly different view of the second photo.



Once we knew that the EICO 377 was the audio oscillator that was used by Verne Thompson in the building of Aubrey Scoon's instrument we went through John Marsh's papers to see if they happened to mention the EICO 377 instrument. We found in his papers a document which shows that John Crane and John Marsh were using the EICO 377 as a contact pad instrument. This new style of contact pad instrument used aluminum discs to come in contact with the body of the user instead of using a plasma tube. Below is a quote found in that document:

*"The device consists of: 1. An audio oscillator. These are produced by various firms such as Heath Company of Benton Harbor, Mich.; Electronic Instrument Co. of Long Island City, New York; R.C.A.; General Radio; Knight Co.; and others as well as our own which was a Hartley oscillator initially.*



*The model submitted herein is Model 377 EICO which is manufactured and sold by them as a commercial item." ([Rife Virus Microscope Institute - EICO 377 document](#)).*

It really shouldn't be a surprise that Verne Thompson used the EICO 377 in his building of Aubrey Scoon's original Beam Ray Clinical replica design since he was using it for their pad instrument. Since the EICO 377 was first built in 1952 this dates the building of Aubrey Scoon's instrument to 1952 or later. This is also when the 812a vacuum tube was used by Verne Thompson in the newer design called the AZ-58. The AZ-58, built-in 1953, was also a Beam Ray Clinical replica design. This explains why the correct vacuum tube for Aubrey Scoon's machine was not the 1930's 809 vacuum tube but the 1950's 812a tube.

In the 1940's and 1950's Verne Thompson was still building Beam Ray replica designs for those doctors who wanted to own an instrument. It is apparent that he was building instruments for anyone that wanted one and was not exclusive to John Crane or John Marsh since Dr. Rife and Verne Thompson did not meet John Crane until 1950. The Rife documents show that Rife, Crane and Marsh had Verne Thompson build their new machine which they called the AZ-58 in 1953. It used lower audio frequencies (original 1930's audio frequencies divided by a factor of 10 times) than what the original Beam Ray Clinical design used. Even though Verne Thompson was building the AZ-58 he was still building the original 1930's design which used the higher audio frequencies. The fact that Aubrey Scoon's instrument was built in 1952, or later, proves that both designs were being built at the same time in the 1950's. The 1953 AZ-58 was using the lower audio frequencies (from 120 Hertz to 2128 Hertz) and Aubrey Scoon's original Beam Ray replica was using the higher audio frequencies (1200 Hertz to 21275 Hertz).

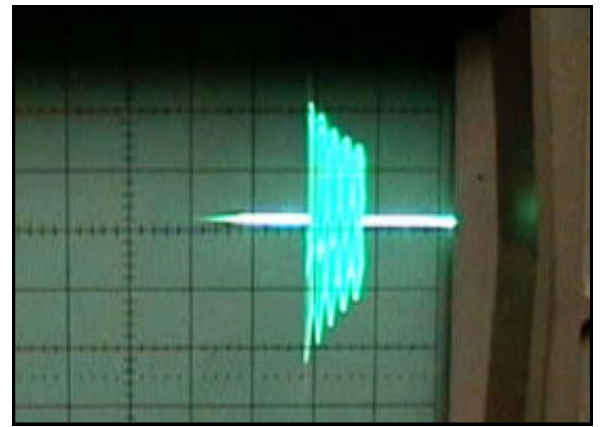
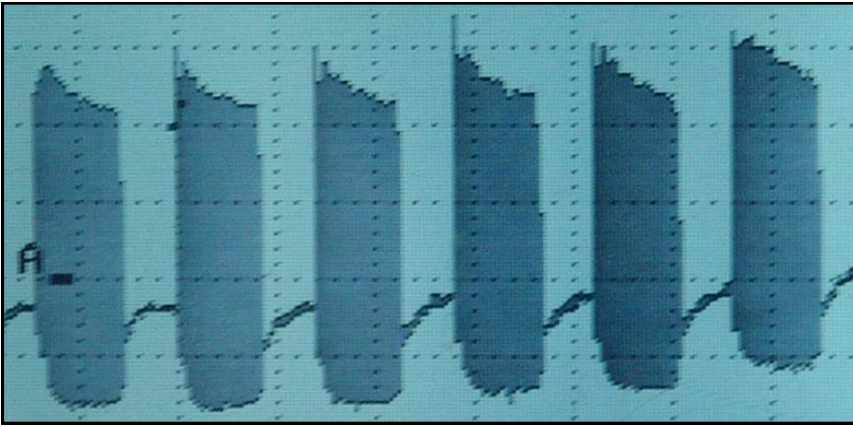
Another discovery made by Roger Blain is also important. It is in regards to the Logo emblem that was on the case of Aubrey Scoon's instrument. Aubrey believed that the "B" Logo found on his instrument must have been the original 1939-1939 Beam Ray Corporation emblem. Below is a photo of this emblem. This was actually the Logo of the company that built the instrument case. The company was Bud Industries. This company is still in business today and are building encloses for electronic devices. Their web site is <http://www.budind.com>. This discovery, by Roger Blain, also indicates that Aubrey Scoon just didn't do enough investigative work or he would have also discovered that this logo was not Beam Ray Corporations logo.



The information in the next two paragraphs should actually be in [Chapter 12](#). But we are also including it here for those who already have a good understanding of the audio frequencies used in this type of instrument. The reason we are including this information here is some people have asked whether the low audio frequencies (120 Hertz to 2128 Hertz) used in the 1953 AZ-58 are actually the original audio frequencies used in the 1938-1939 Beam Ray machine rather than the high audio frequencies (1200 Hertz to 21275 Hertz) used in Aubrey Scoon's Beam Ray replica instrument. This is a good question and it can easily be answered with certainty. The answer is in the math which produces the correct sidebands for each organism. Only the high audio frequencies (1200, 2400, 6600, 6900, 7660, 7270, 7870, 8300, 8450, 8020, 16000, 17220, 18620, 20080, 21275) will produce the correct sideband frequencies which will produce the higher harmonic frequencies from Dr. Rife's original frequencies. Only six of the low audio frequencies (120, 660, 727, 1862, 2008, 2127-2128 or 2127.5 Hertz as given by John Crane) used in the 1953 AZ-58 when multiplied by a factor 10 times give the exact same high frequency used in Aubrey Scoon's instrument. But the other seven (712, 784, 776, 800, 803, 880 and 1552 Hertz) when multiplied by a factor of ten times will not give the correct high audio frequency. These facts reveal which frequency list came first. Since we know that Philip Hoyland designed this Beam Ray Clinical machine and hid the method of using sideband frequencies to produce higher harmonics of Dr. Rife's M.O.R. frequencies then only the list (Aubrey Scoon's list) that will produce Dr. Rife's higher harmonic frequencies could be the original list.

We will point out a few more facts. From the Beam Ray Trial, we learned that no one but Philip Hoyland understood how the instrument worked. Not even Dr. Rife, Verne Thompson, John Crane or John Marsh or anyone else understood that the RF carrier frequency had to be matched to the audio frequencies in order to produce the sideband frequencies that would hit the higher harmonic frequencies of Dr. Rife's original frequencies. John Crane and John Marsh said many times the RF carrier frequency did not matter. In fact, they eventually quit using the RF carrier frequency when they built their 1950's contact pad style instrument. This clearly shows that they did not understand that the original Rife Ray #5 or Beam Ray Clinical instrument worked on harmonic sidebands. Had they understood this simple fact they never would have changed the RF carrier frequency or built their contact pad style instrument without using an RF carrier frequency. They also would not have lowered or changed any of the audio frequencies if they understood the sideband method used by Philip Hoyland. Both frequency lists would be identical except that one list would be 10 times higher than the other list. Only someone who did not understand how the audio frequencies really worked would have lowered them and then changed them. Only the list which came first would have all the correct frequencies. Again this information proves that the high audio frequency list came first. The low audio frequency list used in the 1953 AZ-58 would have come later in the 1950s because it is the list of frequencies when multiplied by 10 times, which will only produce some of the correct sideband frequencies. Only someone such as Philip Hoyland could have made the high audio frequency list since the high audio frequencies are the only frequencies that will produce Dr. Rife's higher M.O.R. harmonic frequencies. As we said, the answer to this question is found in the math.

Now we will go back to the EICO 377 and Aubrey Scoon's audio oscillator. Other than the audio oscillator going to 200,000 Hertz (original Beam Ray instrument going to about 42,000 Hertz) Aubrey Scoon's instrument is a replica of the original Beam Ray Clinical instrument. With this knowledge we know that Aubrey Scoon's instrument was a faithful reproduction of Philip Hoyland's Beam Ray Clinical instrument. Just like the original Beam Ray Clinical instrument Aubrey Scoon's Beam Ray Clinical replica instrument used the sine wave waveform for both the RF carrier frequency and the low audio frequencies. The original machines waveform is shown in the first photo, on the left, at the top of the next page. The second photo, on the right, at the top of the next page shows Aubrey Scoon's instrument's modulated waveform. These two waveforms are similar. The replica that we built of Aubrey Scoon's instrument does not have any parasitic oscillations and its waveform looks like the original Beam Ray Clinical instrument waveform shown in the first photo, on the left, on the next page.



The most important information that came with Aubrey Scoon's instrument was the higher audio frequency list which the doctor who owned it used on his patients. Dr. Low's original Beam Ray Clinical instrument frequency list was lost to time. However, Aubrey Scoon's frequency list was not lost so we can use it and reconcile its audio frequencies to Dr. Rife's original high RF frequencies using the sideband method that was used in this style of instrument.

Since we know that Philip Hoyland tested this Clinical instrument in the laboratory he would have calculated the exact audio frequencies to hit the M.O.R.s. The Rife Ray #4 frequencies could be one-quarter of one percent off, because of the limits of the 1930's technology, if Philip Hoyland only read the frequency one time. This appears to be what happened because the frequencies read in 1935 are rounded to the nearest one-thousandth. In 1935 Philip Hoyland needed the information about the range of Dr. Rife's frequencies to build the Rife Ray #4. But in 1936 when he was building the Rife Ray #5 or Beam Ray Clinical instrument he needed more accurate frequencies for this new instrument since it was using the new sideband method. When the math was done using the high audio frequencies it showed that the frequencies were not rounded to the nearest one-thousandth, but they were more precise. It is apparent that the testing Philip Hoyland did in the laboratory in the summer of 1936 on microorganisms allowed him to get the most accurate frequency for each organism. In 1935 the Rife Ray #4 frequency given for Streptothrix was 192,000 Hertz but the frequency for the 1936 Rife Ray #5 or Beam Ray Clinical instrument was 191,803. Not only was this frequency just a little different, but all the frequencies were a little different. This indicates that Philip Hoyland took a more accurate reading of the frequencies of each organism in 1936 for use in his new instrument.

When we did the mathematical equations in order to determine if the audio frequencies from Aubrey Scoon's instrument could produce the correct M.O.R. frequencies when used with the 3.30 MHz RF carrier frequency the math had to be done in reverse order. Using the audio frequencies to determine the most accurate M.O.R.s through the sideband frequencies was the only way to figure out what the frequencies were for each organism listed. If these harmonic frequencies, when divided down, were within one-quarter of one percent of the Rife Rays #4 original M.O.R.s. then we knew that the 3.30 MHz RF carrier frequency was the correct carrier frequency. This would also prove that the sideband method was the method of producing the M.O.R.s. in the Beam Ray Clinical instrument. Doing this would also show that the two instruments worked identically the same way. Aubrey Scoon's Beam Ray Clinical instrument with its audio frequencies would firmly prove the sideband method was the method that Philip Hoyland developed. Aubrey Scoon's instrument would also prove that Philip Hoyland used at least two different fixed RF carrier frequencies in the instruments in order to help keep anyone from figuring out the secrets of the instruments. If the carrier frequency is different then the audio frequencies will also be different because they have to be properly matched in order to create the sidebands on the correct high RF harmonic M.O.R. frequencies.



Below is a frequency comparison chart of Aubrey Scoon's Beam Ray Clinical replica instrument. In the "Rife Ray #4, Frequencies In Hertz" column are Dr. Rife's M.O.R. frequencies read by Philp Hoyland in 1935. In the "Aubrey Scoon's Sideband Audio Frequencies In Hertz" column are the audio frequencies used to create the correct sideband frequencies to hit the harmonic Rife Ray #4 frequencies. In the "Rife Ray #4 Frequencies Based on Scoon's Audio Frequencies" column, we see the more accurate M.O.R. frequencies that these audio frequencies produce. You will notice in the "Rife Ray #4 Frequencies In Hertz" column that the frequency for Actinomycosis or Streptothrix is 192,000 Hertz and in the "Rife Ray #4 Frequencies Based on Scoon's Audio Frequencies" column is the frequency of 191,803 Hertz. There is only a 197 Hertz difference between these frequencies. If you compare both of these columns you will notice how closely these frequencies match up. All the frequencies which are in the column "Rife Ray #4 Frequencies Based On Scoon's Audio Frequencies" are less than one-quarter of one percent off of the "Rife Ray #4 Frequencies In Hertz."

This is something that should be considered. If these 15 frequencies were lottery numbers that all had to match up, the chances of them producing Dr. Rife frequencies through harmonic sidebands with this accuracy, would be in the millions to one chance. Now keep in mind the fact that these audio frequencies range from 1200 Hertz to 21,275 Hertz and only match up with a 3.30 MHz RF carrier frequency. The distance between these sidebands is significant and yet they will hit Dr. Rife's frequencies within one-quarter of one percent to one-thirtieth of one percent. Anyone looking at this chart, shown below, can see that this could not be just a coincidence.

<b>Aubrey Scoon's Sideband Audio Frequencies Reconciled To Rife's Original High Frequency M.O.R.s.</b>							
<b>Microorganism</b> *These frequencies were not included in Aubrey Scoon's instrument.	<b>Rife Ray #4 Frequencies In Hertz</b>	<b>Higher Rife Ray #4 Harmonic Frequencies In Hertz</b>	<b>Aubrey Scoon's Sideband Audio Frequencies In Hertz</b>	<b>Higher Rife Ray #4 Harmonic Frequencies in Hertz Based On Scoon's Audio Frequency and 3.30 MHz Carrier</b>	<b>*Carrier Difference Frequency</b>	<b>Number of Sideband Harmonics</b>	<b>Rife Ray #4 Frequencies Based On Scoon's Audio Frequencies</b>
Actinomycosis or Streptothrix	192,000 Hz	3,264,000 or 17th	7,870 Hz	3,260,650 or 17th	39,350 Hz	5	191,803 Hz
Anthrax	139,200 Hz	3,340,800 or 24th	*10,200 Hz	3,340,800 or 24th	40,800 Hz	4	139,200 Hz
B or E Coli Rod	417,000 Hz	3,336,000 or 8th	8,020 Hz	3,332,080 or 8th	32,080 Hz	4	416,510 Hz
B or E Coli Virus	770,000 Hz	3,080,000 or 4th	17,220 Hz	3,076,140 or 4th	223,860 Hz	13	769,035 Hz
BX Virus Carcinoma	1,604,000 Hz	3,208,000 or 2nd	21,275 Hz	3,214,900 or 2nd	85,100 Hz	4	1,607,450 Hz
BY Sarcoma	1,530,000 Hz	3,059,040 or 2nd	20,080 Hz	3,059,040 or 2nd	240,960 Hz	12	1,529,520 Hz
Gonorrhea	233,000 Hz	3,262,000 or 14th	*9,500 Hz	3,262,000 or 14th	38,000 Hz	4	233,000 Hz
Pneumonia or Spinal Meningitis	427,000 Hz	3,416,000 or 8th	7,660 Hz	3,414,900 or 8th	114,900 Hz	15	426,862 Hz
Staphylococcus Pyogenes Aureus	478,000 Hz	3,346,000 or 7th	7,270 Hz	3,343,620 or 7th	43,620 Hz	6	477,660 Hz
Streptococcus Pyogenes	720,000 Hz	3,600,000 or 5th	8,450 Hz	3,595,750 or 5th	295,750 Hz	35	719,150 Hz
Syphilis	789,000 Hz	3,156,000 or 4th	6,600 Hz	3,154,800 or 4th	145,200 Hz	22	788,700 Hz
Tetanus	234,000 Hz	3,276,000 or 14th	1,200 Hz	3,276,000 or 14th	24,000 Hz	20	234,000 Hz
Tuberculosis Rod	369,000 Hz	3,321,000 or 9th	8,300 Hz	3,324,897 or 9th	24,897 Hz	3	369,433 Hz
Tuberculosis Virus	769,000 Hz	3,076,000 or 4th	16,000 Hz	3,076,000 or 4th	224,000 Hz	14	769,000 Hz
Typhoid Rod	760,000 Hz	3,040,000 or 4th	6,900 Hz	3,037,800 or 4th	262,200 Hz	38	759,450 Hz
Typhoid Virus	1,445,000 Hz	2,890,000 or 2nd	18,620 Hz	2,890,360 or 2nd	409,640 Hz	22	1,445,180 Hz
Worms	?		2,400 Hz				

We will now give a simple description of how we reconciled these audio frequencies to Dr. Rife's original high RF frequencies which were used in the Rife Ray #3 and Rife Ray #4 Rife Machines. The Rife Ray #4 paperwork gives us the Streptothrix frequency of 192,000 Hertz. Since we know that Philip Hoyland used the higher harmonic frequency closest to the RF carrier frequency in these instruments what we have to do is multiply 192,000 Hertz by 17 to get the closest frequency to the 3,300,000 Hertz. The 192,000 Hertz multiplied by 17 give us a frequency of 3,264,000 Hertz. The difference between these two frequencies is only 36,000 Hertz. This math gives us the method that Philip Hoyland used.

Now Hoyland used an audio frequency of 7,870 Hertz as the frequency to produce the proper sideband spacing in Aubrey Scoon's instrument. If we multiply 7,870 Hertz times 5 we get the frequency of 39,350 Hertz which is the closest frequency to 36,000 Hertz. If we take 3,300,000 Hertz and minus 39,350 Hertz we get 3,260,650 Hertz which would be the higher harmonic frequency which was used by Philip Hoyland on Streptothrix. Now if we divide 3,260,650 Hertz by 17 we get the true frequency of 191,803 Hertz used by Dr. Rife on Streptothrix. Aubrey Scoon's sideband audio frequencies now give us the most accurate frequencies for the organisms since they are not rounded to the nearest thousandth. Those frequencies are found in the chart, on the previous page, with the column labeled "Rife Ray #4 Frequencies Based on Scoon's Audio Frequencies". The math we did for this chart shows that Aubrey Scoon's Beam Ray Clinical Replica instrument works on the harmonic sideband method to produce the M.O.R.s.

It wasn't until we were able to get the original Beam Ray Clinical instrument and figure out how it worked did we have the ability to determine how Aubrey Scoon's replica instrument really worked. Once we understood how these instruments really worked we could finally figure out the M.O.R. frequencies for Sarcoma, Pneumonia, and Tuberculosis. This was made possible because some other documents that we have give a second reference point to work with to help us determine the correct frequency. Worms (hookworms) however, did not have a second reference point so the only way to produce the M.O.R. frequency for worms is through the sideband method using the audio frequency of 2,400 Hertz in combined with the 3.30 MHz RF carrier frequency.

In Chapter 9 we mentioned that we would talk about the unique method that Philip Hoyland used to create the many harmonic sideband frequencies in his Beam Ray Clinical machine. The standard electronic textbooks will give you a model using a mathematic equation on how AM modulation creates sidebands. In these textbook models, which use a pure sine wave RF carrier frequency, they will show by the fourth sideband there will be no more power in the sidebands. Under normal conditions this is true but his circuit is a Low Q circuit not a High Q circuit. This is why you will notice in this report that the spectrum analyzer graphs taken from Philip Hoyland's instrument show that his machine produces dozens of harmonic sideband frequencies. You will also notice that these graphs do not show the dramatic power loss in the sidebands that is seen in standard AM modulation. Philip Hoyland's unique method used a Low Q circuit and a harmonic RF sine wave carrier frequency. His modulation was more like a pulse width modulation with a 50% duty cycle. The harmonic RF carrier frequency that Philip Hoyland used creates the many harmonic sideband frequencies unlike the electronic textbook models. The spectrum analyzer graphs in this report clearly show that Philip Hoyland's circuit design is very unique and produces many harmonic sidebands. These graphs correctly show that the power is more evenly distributed throughout the sidebands. This means the primary RF carrier frequency does not have almost all the power in it like the electronic textbook models show. Since the power is more evenly distributed throughout the sidebands the primary RF carrier frequency may only have from a few watts to several watts of power in it and the harmonic sidebands will have the rest of the power distributed throughout them. This also means the sidebands are more powerful in this design due to the harmonic RF carrier frequency and the 50% duty cycle it naturally creates with the old vacuum tube technology. Had Philip Hoyland been able to use an even lower duty cycle the power in the sidebands would have been distributed even more evenly than with a 50% duty cycle. It must be kept in mind that the power in the primary RF carrier frequency and the sidebands depend on the power of the machine

and the number of harmonic sidebands created by the audio frequency used. Some people question the ability of the lower power in the primary RF carrier frequency and the increased power in the sidebands to devitalize the microorganisms. But the power of this machine (50 watts) must have been sufficient because the tests done by Dr. Rife and Dr. Milbank Johnson confirmed its effectiveness.

On pages 147 through 154 are the spectrum analyzer graphs showing the sideband frequencies for each organism using Aubrey Scoon's Beam Ray replica instrument audio frequencies with his 3.30 MHz RF carrier frequency. These spectrum analyzer graphs also include Anthrax and Gonorrhea which was not included with Aubrey Scoon's audio frequency list.

On page 155 are photos of Aubrey Scoon's instrument that we built. On page 156 is the schematic of this 1950's instrument. The 866 vacuum tubes have been replaced with solid-state rectifiers. Also, the old vacuum tube audio oscillator was not included in the case of the instrument. It is easier and more accurate to use Aubrey Scoon's booster amplifier and a modern function generator to produce the audio frequencies that were used in this instrument. The layout of the electronic parts of this instrument is also very important because of the inherent interference problems that come with RF oscillators. Again anyone who would like to build this instrument should have a good understanding of old tube technology. Some parts of this circuit use up to 2000 volts DC with substantial current and can easily kill anyone who is not familiar with this kind of current or voltage. We take no responsibility for anyone who builds this instrument. We recommend that you have professional help.

On pages 157-169 we have included in this report Aubrey Scoon's original report that was on his website. The reason we have included his report in this report is due to the fact that Aubrey Scoon passed away a few years ago and his website is no longer available on the internet. The information that his report gives is very important to those who are interested in how Dr. Rife's machines worked.

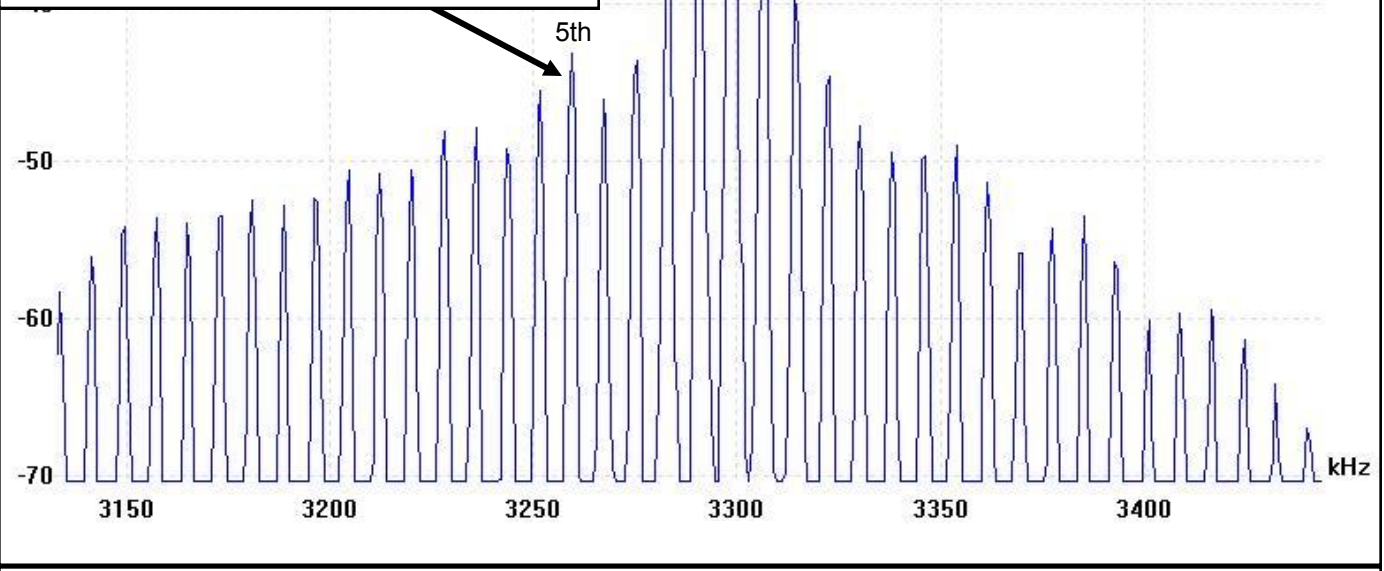
**CHAPTER SUMMARY:** We now know that Aubrey Scoon's instrument is a copy of Dr. Couches' original Rife Ray #5 or Beam Ray Clinical instrument which Dr. Couche purchased from the original 1938-1939 Beam Ray Corporation. Aubrey Scoon's instrument was built by Dr. Rife's engineer, Verne Thompson, sometime in 1952 or later. Dr. Low's original Beam Ray Clinical instrument, which was built by the original Beam Ray Corporation, was the most important machine found because it made it so we now know that it was Philip Hoyland who built the audio frequency instrument that used a fixed RF carrier frequency. With this information, we were able to prove that Aubrey Scoon's instrument was a faithful replica of the original Beam Ray Clinical instrument. It came with a frequency list that the doctor who owned it used on his patients.

When it comes to the audio frequency list Aubrey Scoon's instrument is the most important Rife machine found because it gives us the original audio frequencies used in the original Beam Ray Clinical instrument. With this frequency list, we have been able to prove that Philip Hoyland used higher harmonic frequencies of Dr. Rife's original Rife Ray #3 and Rife Ray #4 frequencies in his Beam Ray Clinical instrument. This list also gives us some of Dr. Rife's frequencies which had been lost, such as the BY Cancer virus frequency. This same audio frequency list was lowered by a factor of 10 times and used in the 1953 AZ-58 which was built by Verne Thompson. With this information, we have been able to prove that these audio frequencies are not Dr. Rife's original M.O.R. frequencies and that they do not devitalize any microorganisms. These audio frequencies, when used with a 3.30 Megahertz carrier frequency, will produce harmonic sideband frequencies which will hit the higher harmonic RF M.O.R. frequencies found by Dr. Rife. We now know how important this Rife instrument really is. Dr. Low's instrument and Aubrey Scoon's instrument have revealed how Philip Hoyland's Beam Ray Clinical instrument was a harmonic instrument.

In the second part of chapter 11, after all the graphs, we will discuss Aubrey Scoon's information of the Rife Beam Ray Website Report.

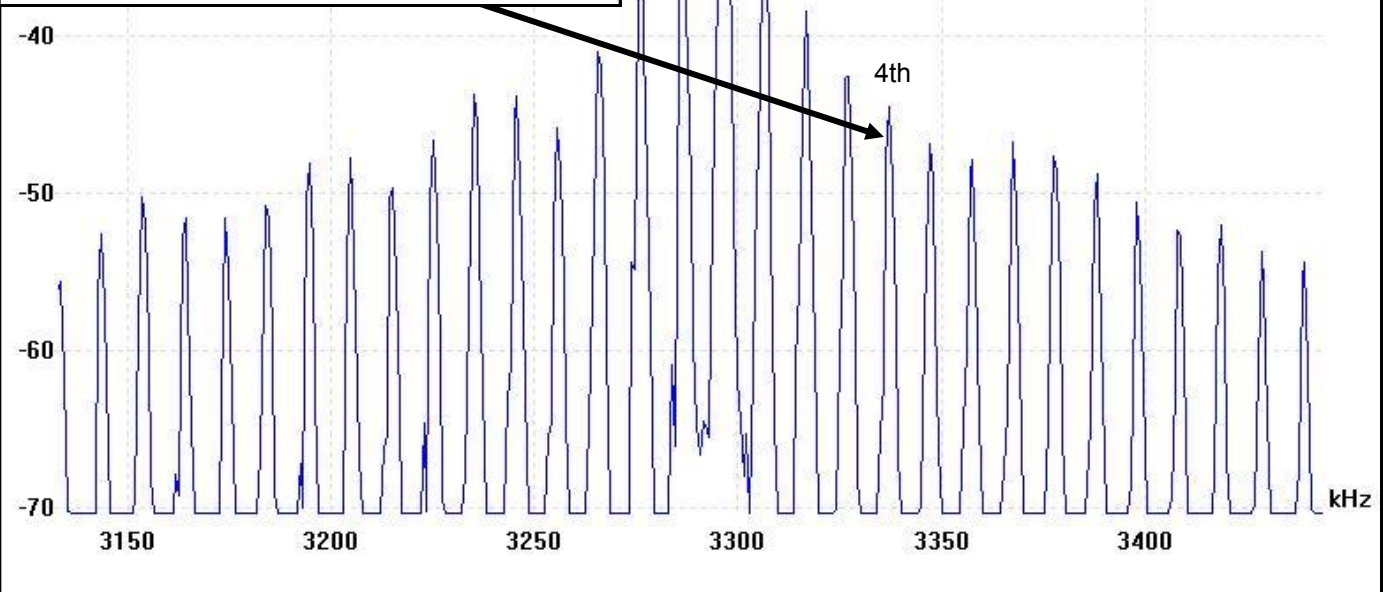


Rife Ray #4 192,000 Hertz for Actinomy-  
 cosis or Streptothrix. The 17th Higher  
 harmonic frequency is 3,264,000 Hertz.  
 Scoon's audio frequency used for the  
 proper sideband spacing is 7,870 Hertz.  
 The 5th lower sideband hit the M.O.R  
 within 1/8 of 1%.



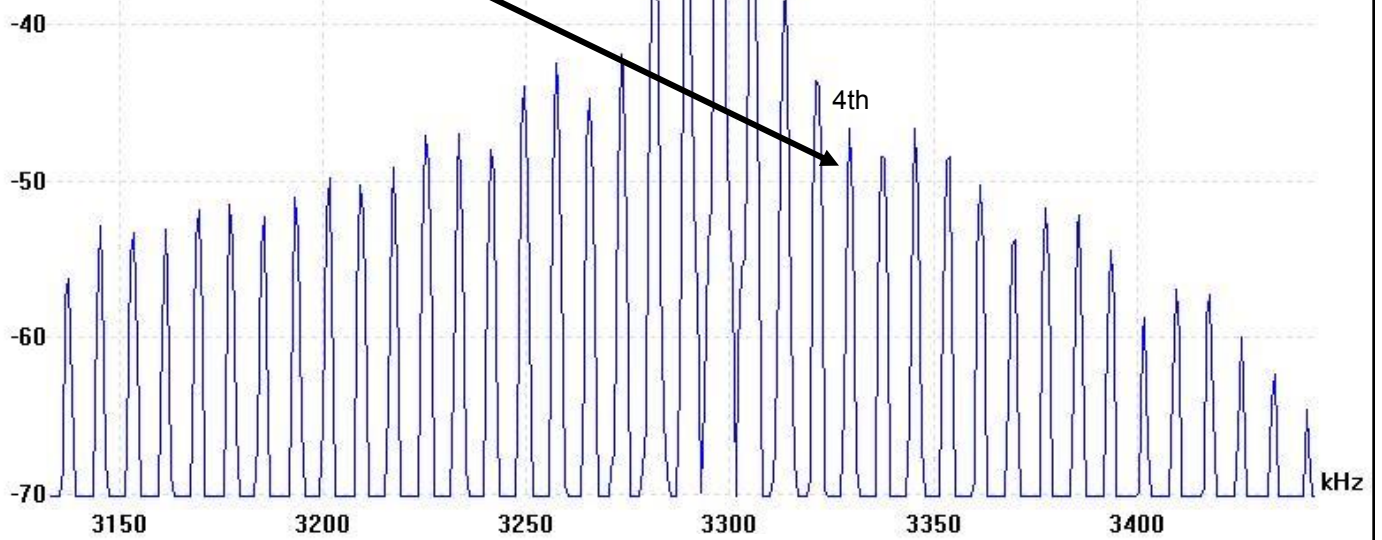
Scoon's Beam Ray Clinical replica instrument 3.30 Megahertz spectrum analysis of sideband harmonic frequencies.

Rife Ray #4 139,200 Hertz for Anthrax.  
 The 24th Higher harmonic frequency is  
 3,340,800 Hertz. The audio frequency  
 which could be used for the proper side-  
 band spacing is \*10,200 Hertz. The 4th  
 upper sideband would hit the M.O.R.



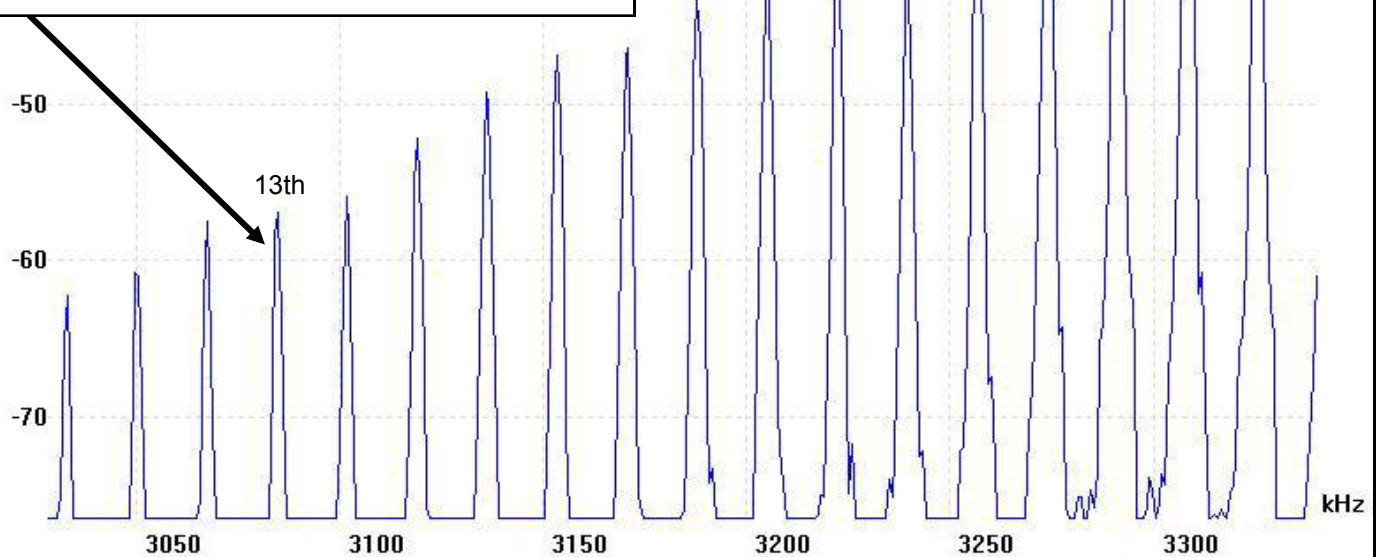
Scoon's Beam Ray Clinical replica instrument 3.30 Megahertz spectrum analysis of sideband harmonic frequencies.

Rife Ray #4 417,000 Hertz for B or E Coli Rod. The 8th Higher harmonic frequency is 3,336,000 Hertz. Scoon's audio frequency used for the proper sideband spacing is 8,020 Hertz. The 4th upper sideband hit the M.O.R within 1/8 of 1%.

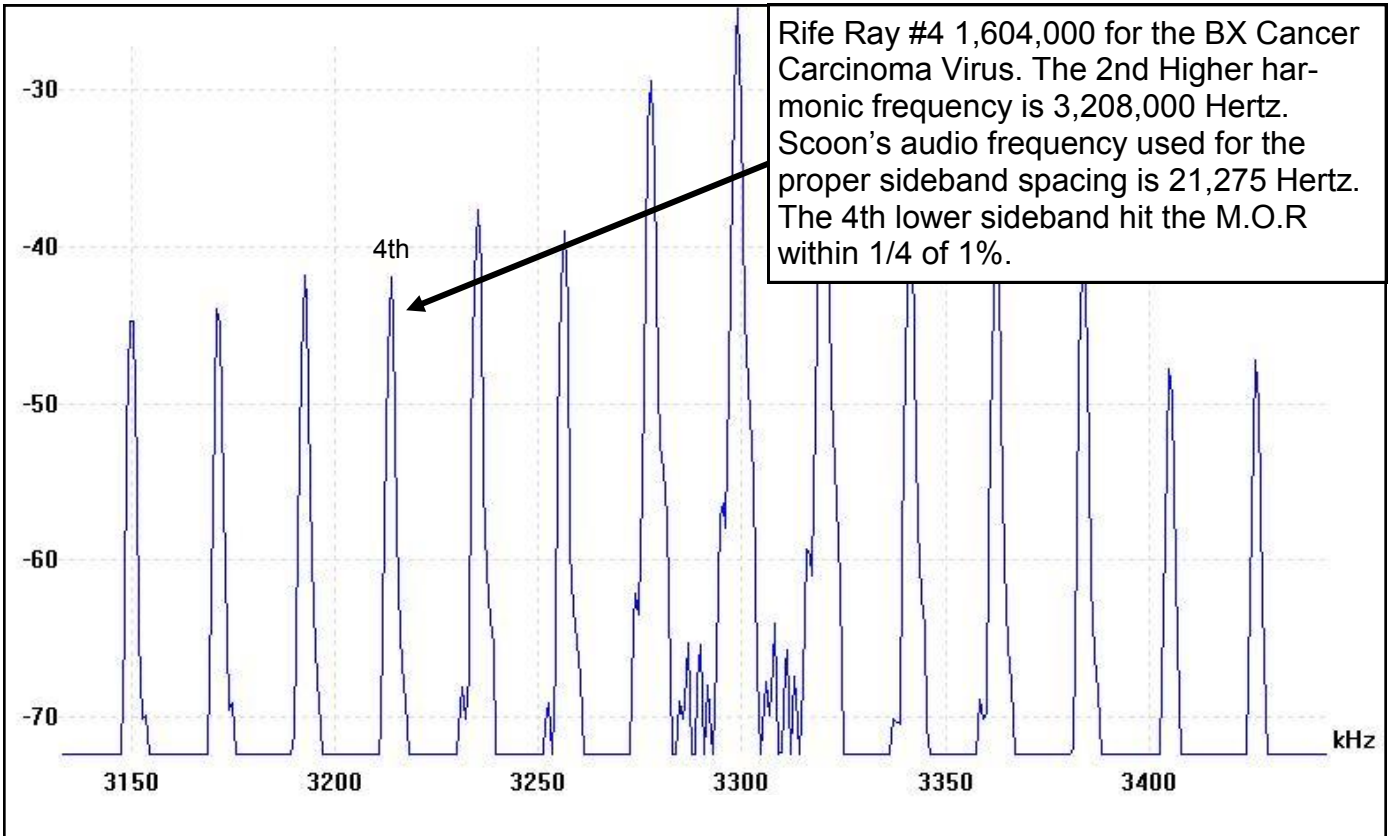


Scoon's Beam Ray Clinical replica instrument 3.30 Megahertz spectrum analysis of sideband harmonic frequencies.

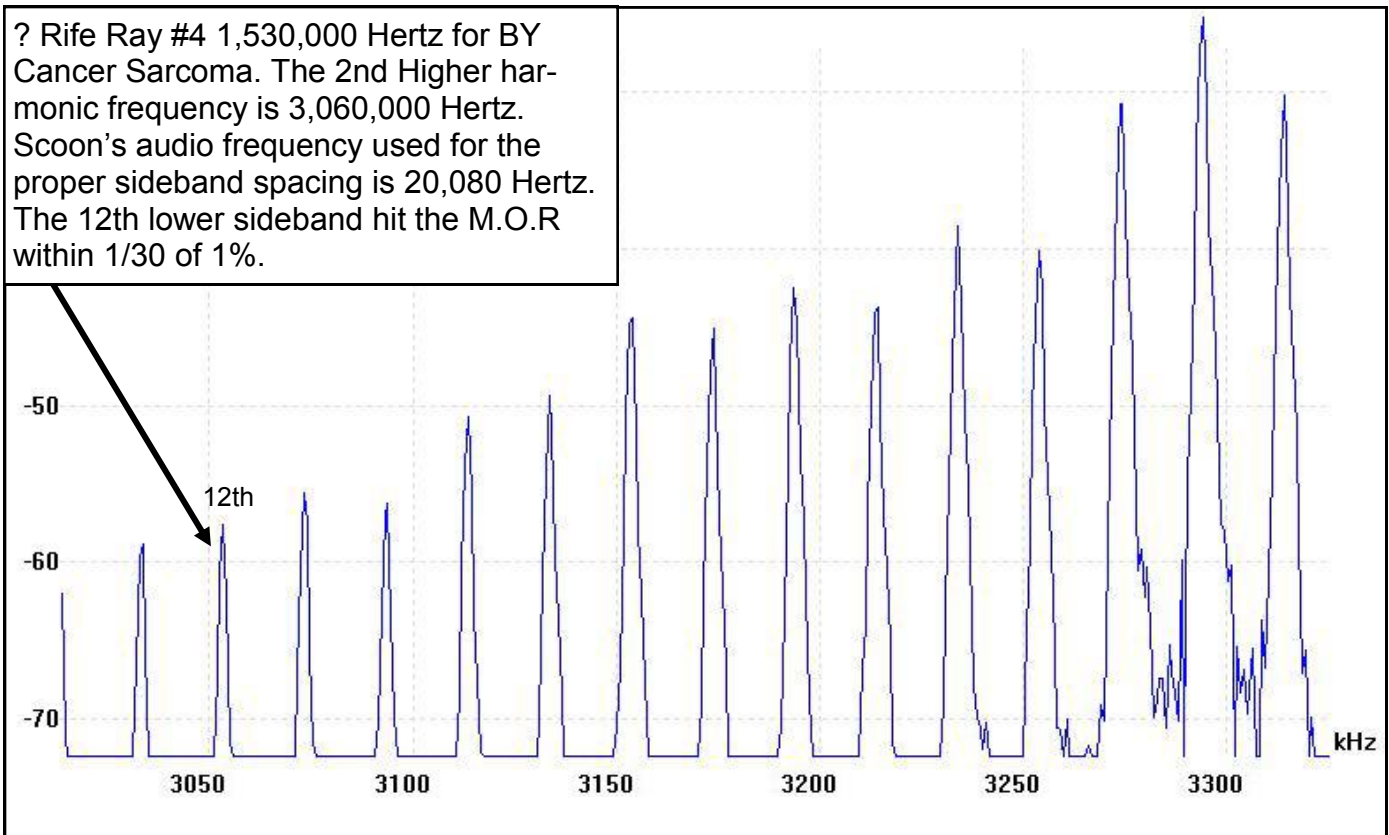
Rife Ray #4 770,000 Hertz for B or E Coli Virus. The 4th Higher harmonic frequency is 3,080,000 Hertz. Scoon's audio frequency used for the proper sideband spacing is 17,220 Hertz. The 13th lower sideband hit the M.O.R within 1/8 of 1%.



Scoon's Beam Ray Clinical replica instrument 3.30 Megahertz spectrum analysis of sideband harmonic frequencies.



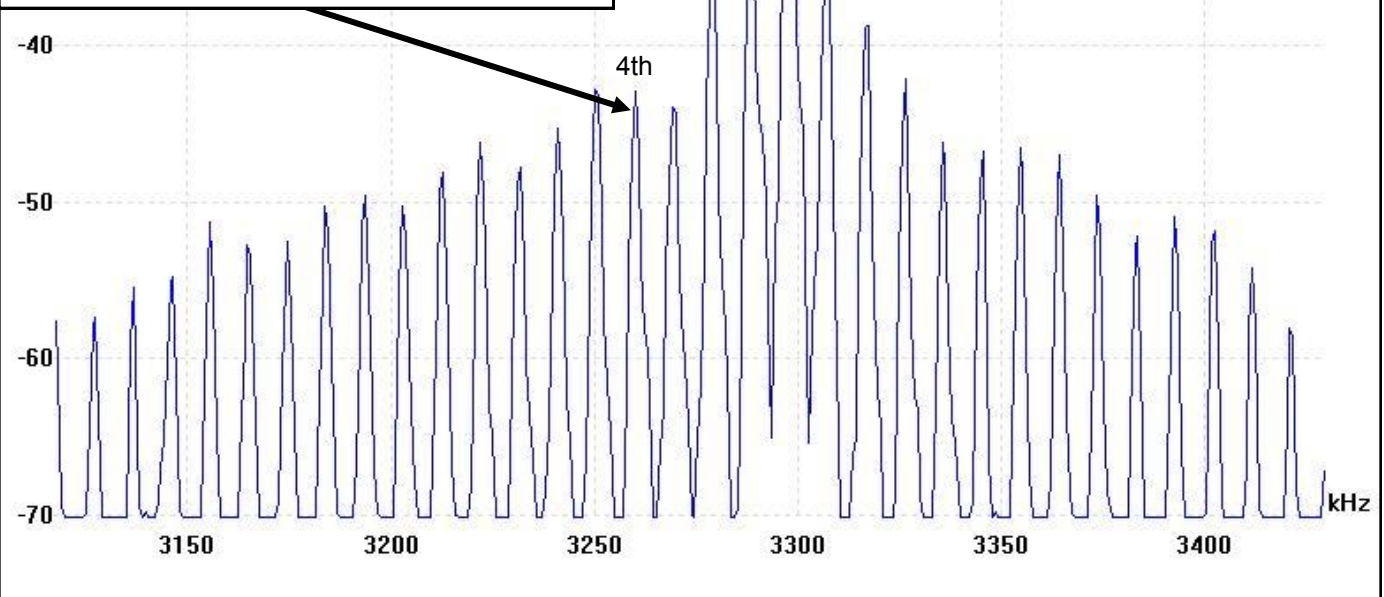
Scoon's Beam Ray Clinical replica instrument 3.30 Megahertz spectrum analysis of sideband harmonic frequencies.



Scoon's Beam Ray Clinical replica instrument 3.30 Megahertz spectrum analysis of sideband harmonic frequencies.

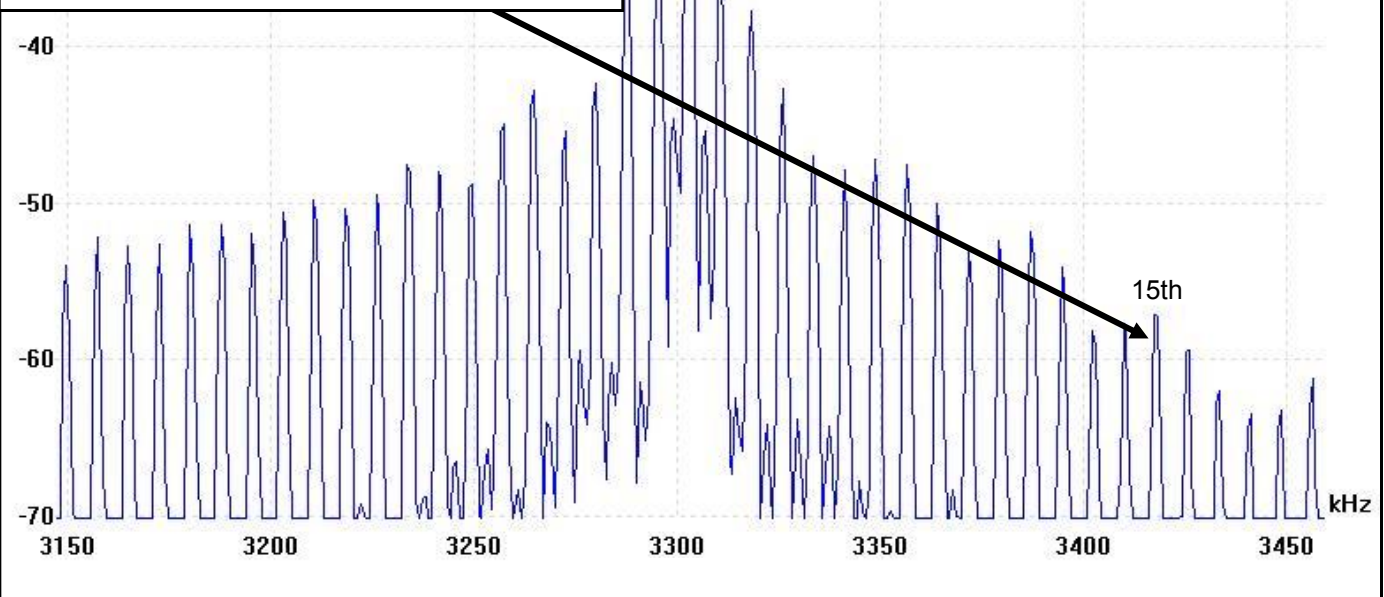


Rife Ray #4 233,000 Hertz for Gonorrhea. The 14th Higher harmonic frequency is 3,262,000 Hertz. Audio frequency which could be used for the proper sideband spacing is \*9,500 Hertz. The 4th lower sideband would hit the M.O.R.



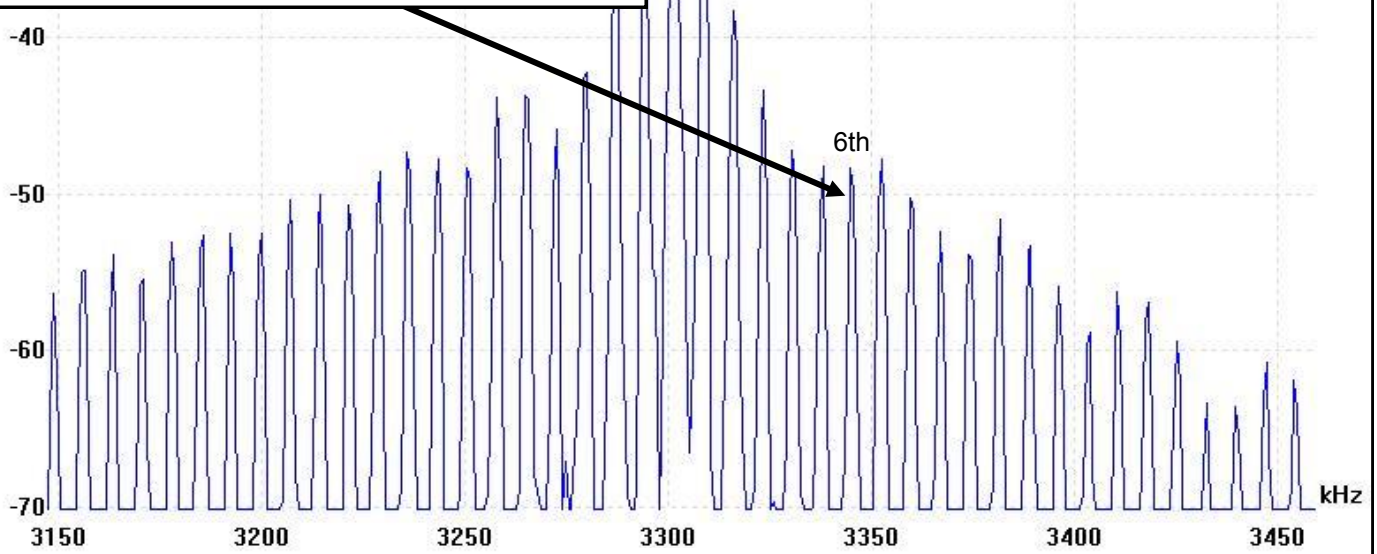
Scoon's Beam Ray Clinical replica instrument 3.30 Megahertz spectrum analysis of sideband harmonic frequencies.

Rife Ray #4 427,000 Hertz for Spinal Meningitis. The 8th Higher harmonic frequency is 3,416,000 Hertz. Scoon's audio frequency used for the proper sideband spacing is 7,660 Hertz. The 15th upper sideband hit the M.O.R. within 1/30 of 1%.



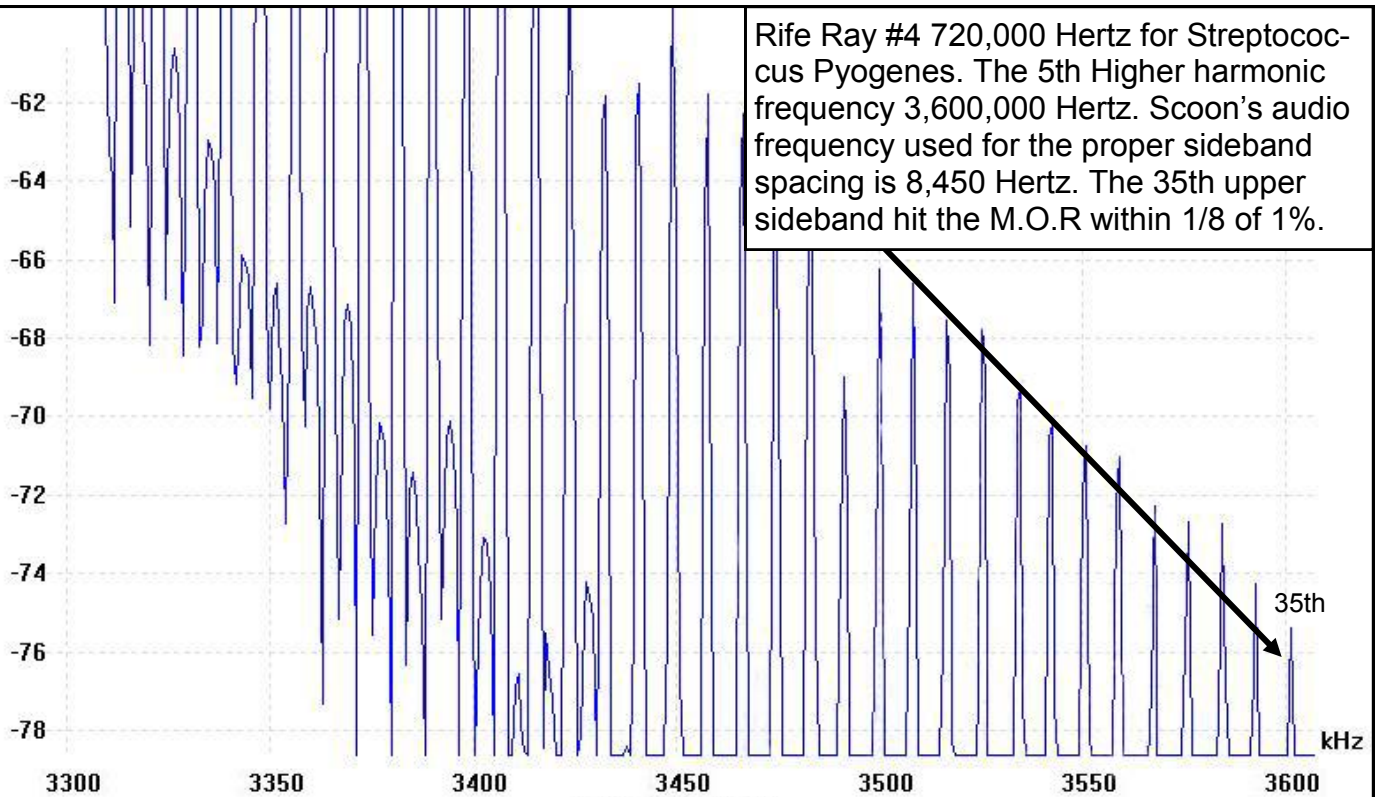
Scoon's Beam Ray Clinical replica instrument 3.30 Megahertz spectrum analysis of sideband harmonic frequencies.

Rife Ray #4 478,000 Hertz for Staphylococcus Pyogenes Aureus. The 7th Higher harmonic frequency is 3,346,000 Hertz. Scoon's audio frequency used for the proper sideband spacing is 7,270 Hertz. The 6th upper sideband hit the M.O.R within 1/14 of 1%.



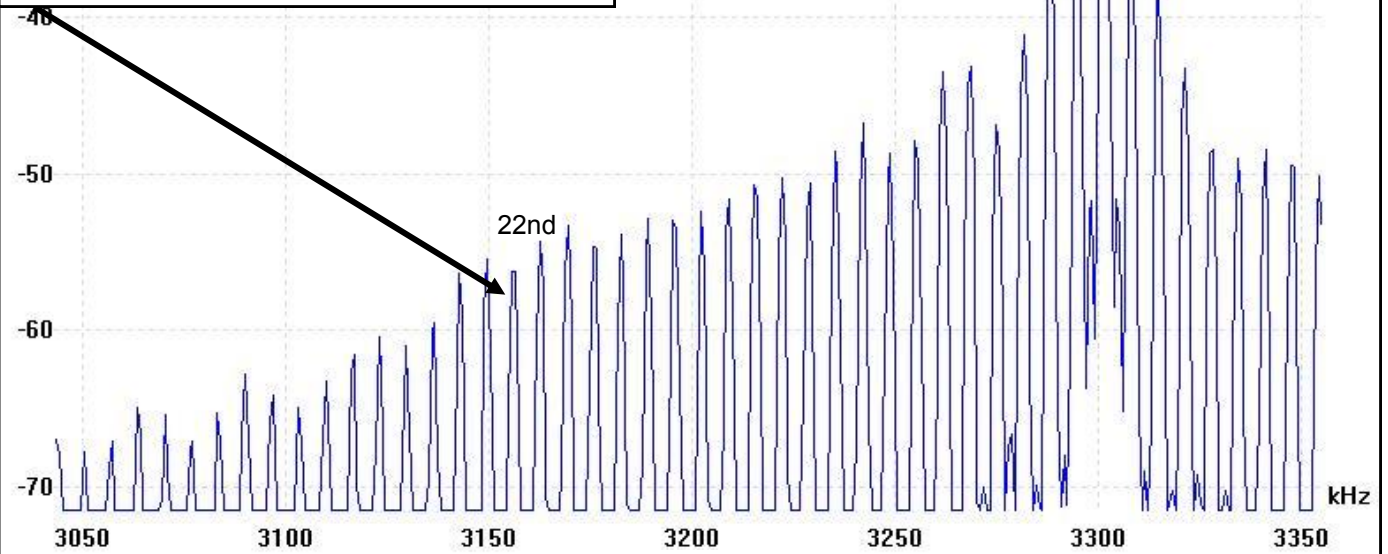
Scoon's Beam Ray Clinical replica instrument 3.30 Megahertz spectrum analysis of sideband harmonic frequencies.

Rife Ray #4 720,000 Hertz for Streptococcus Pyogenes. The 5th Higher harmonic frequency 3,600,000 Hertz. Scoon's audio frequency used for the proper sideband spacing is 8,450 Hertz. The 35th upper sideband hit the M.O.R within 1/8 of 1%.



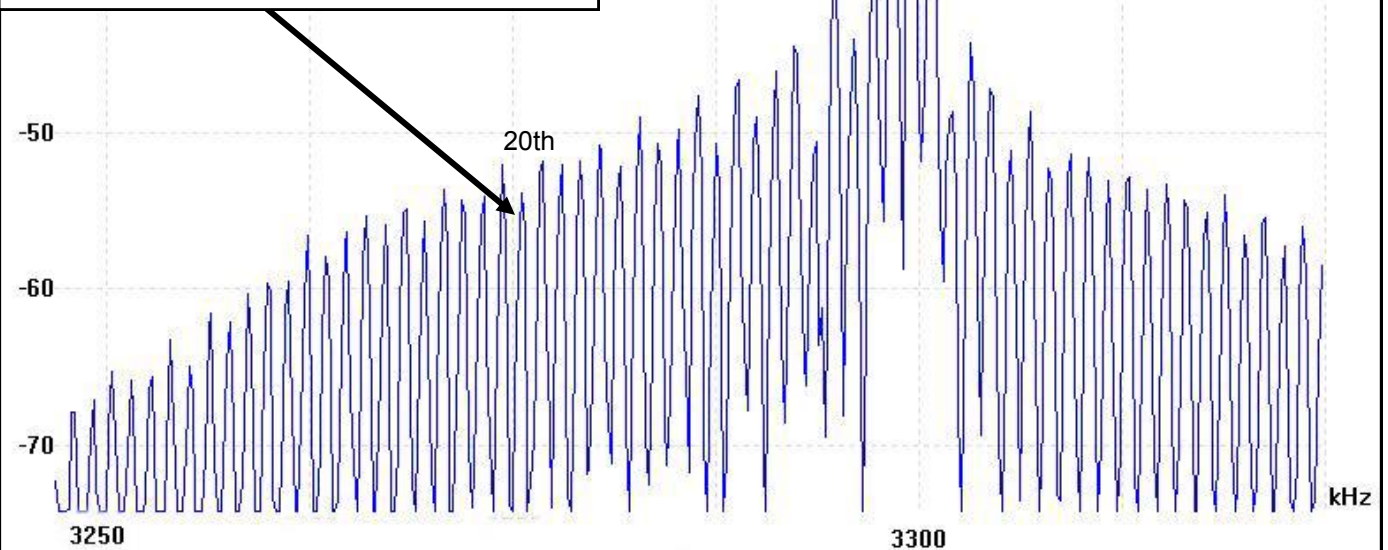
Scoon's Beam Ray Clinical replica instrument 3.30 Megahertz spectrum analysis of sideband harmonic frequencies.

Rife Ray #4 789,000 Hertz for Syphilis.  
The 4th Higher harmonic frequency is  
3,156,000 Hertz. Scoon's audio frequency  
used for the proper sideband spacing is  
6,600 Hertz. The 22nd lower sideband hit  
the M.O.R within 1/26 of 1%.



Scoon's Beam Ray Clinical replica instrument 3.30 Megahertz spectrum analysis of sideband harmonic frequencies.

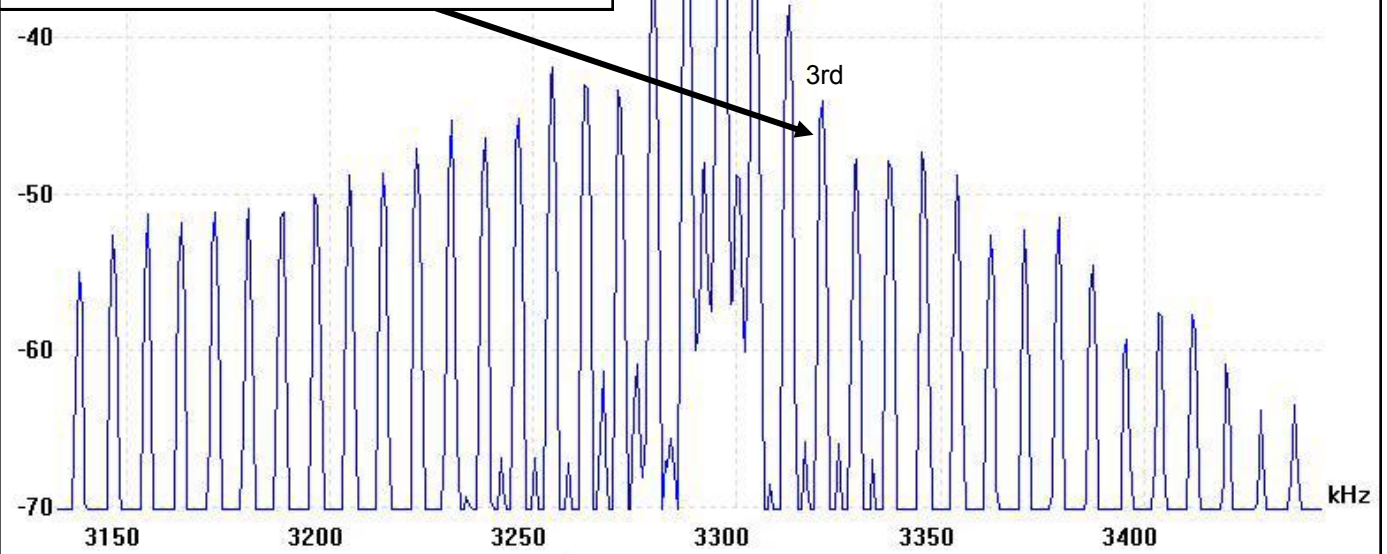
Rife Ray #4 234,000 Hertz for Tetanus.  
The 14th Higher harmonic frequency is  
3,276,000 Hertz. Scoon's audio frequency  
used for the proper sideband spacing is  
1,200 Hertz. The 20th lower sideband  
hit the M.O.R exactly.



Scoon's Beam Ray Clinical replica instrument 3.30 Megahertz spectrum analysis of sideband harmonic frequencies.

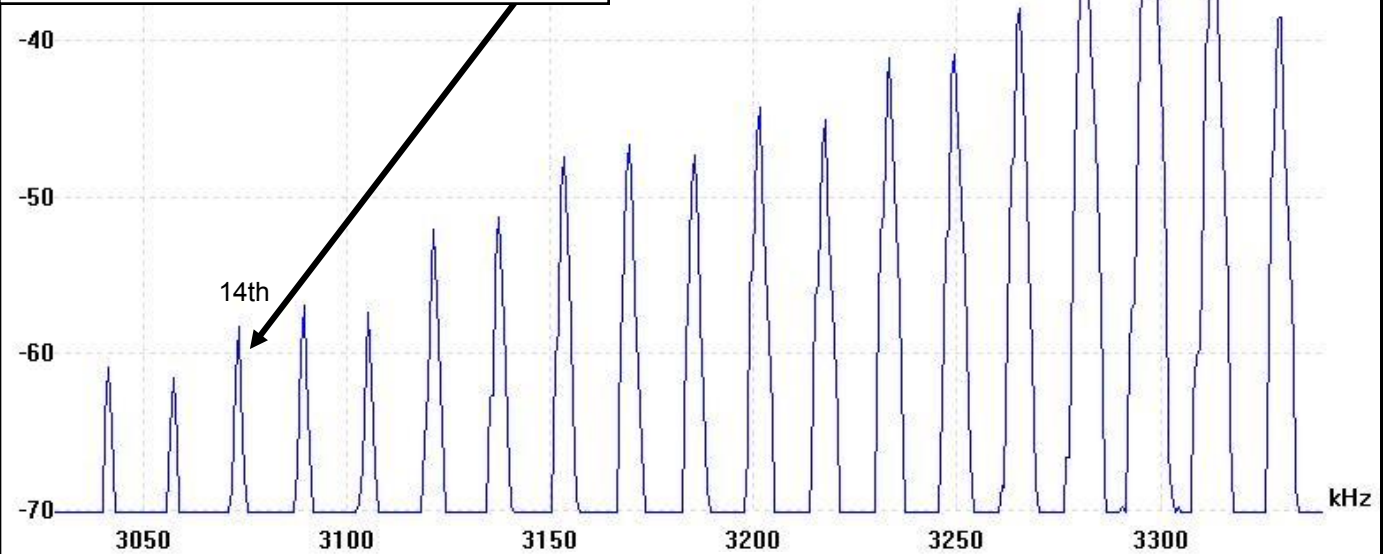


Rife Ray #4 369,000 Hertz for Tuberculosis Rod. The 9th Higher harmonic frequency is 3,321,000 Hertz. Scoon's audio frequency used for the proper sideband spacing is 8,300 Hertz. The 3rd upper sideband hit the M.O.R within 1/8 of 1%.



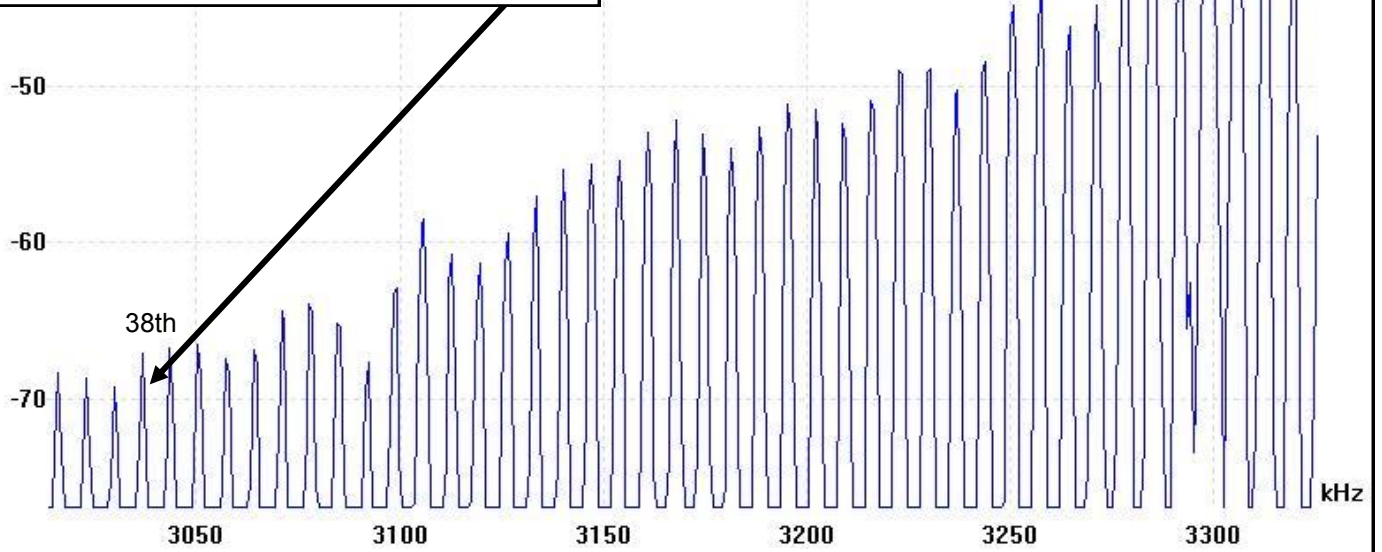
Scoon's Beam Ray Clinical replica instrument 3.30 Megahertz spectrum analysis of sideband harmonic frequencies.

? Rife Ray #4 769,000 Hertz for Tuberculosis Virus. The 4th Higher harmonic frequency is 3,076,000 Hertz. Scoon's audio frequency used for the proper sideband spacing is 16,000 Hertz. The 14th lower sideband hit the M.O.R exactly.



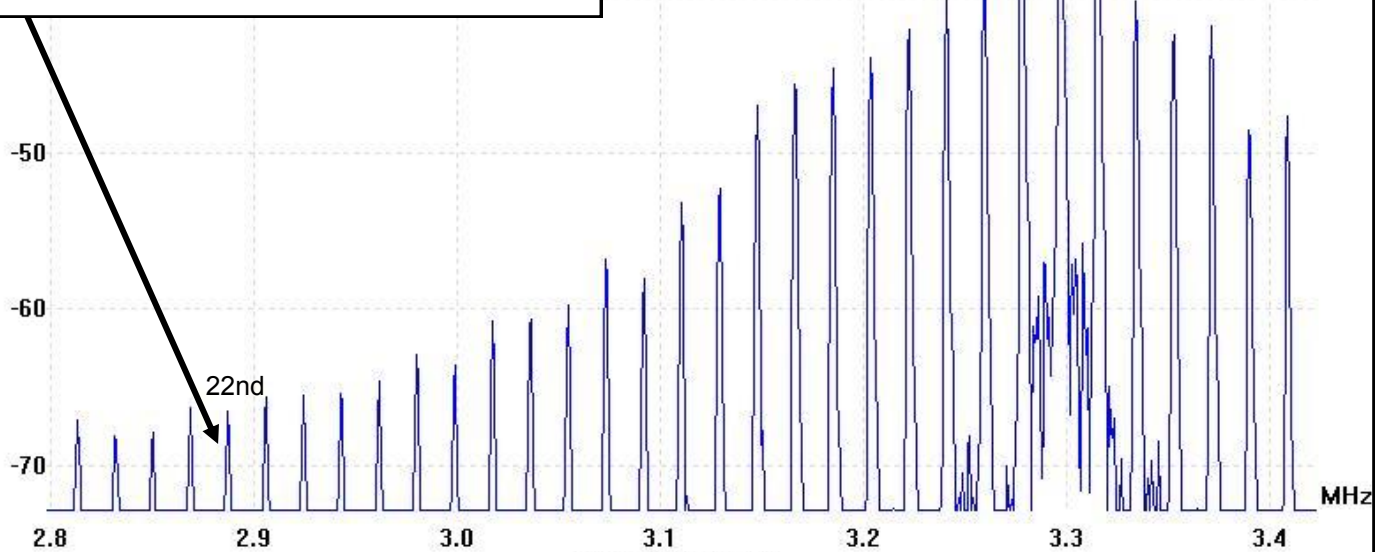
Scoon's Beam Ray Clinical instrument 3.30 Megahertz spectrum analysis of sideband harmonic frequencies.

Rife Ray #4 760,000 Hertz for Typhoid Rod. The 4th Higher harmonic frequency is 3,040,000 Hertz. Scoon's audio frequency used for the proper sideband spacing is 6,900 Hertz. The 38th lower sideband hit the M.O.R within 1/11 of 1%.



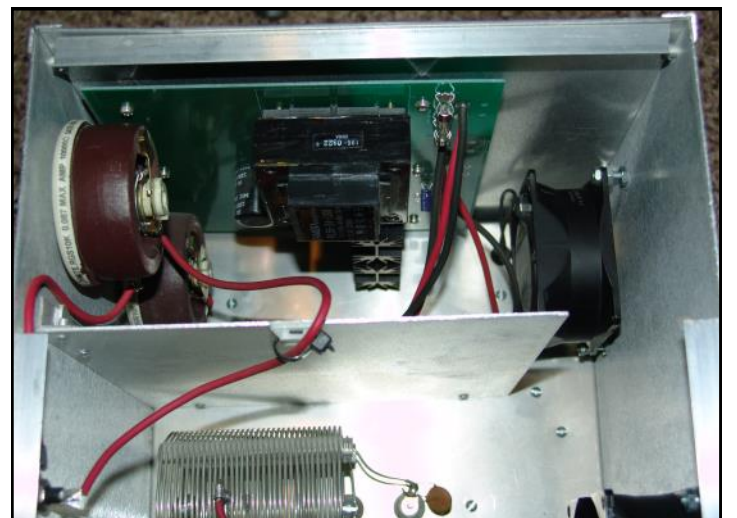
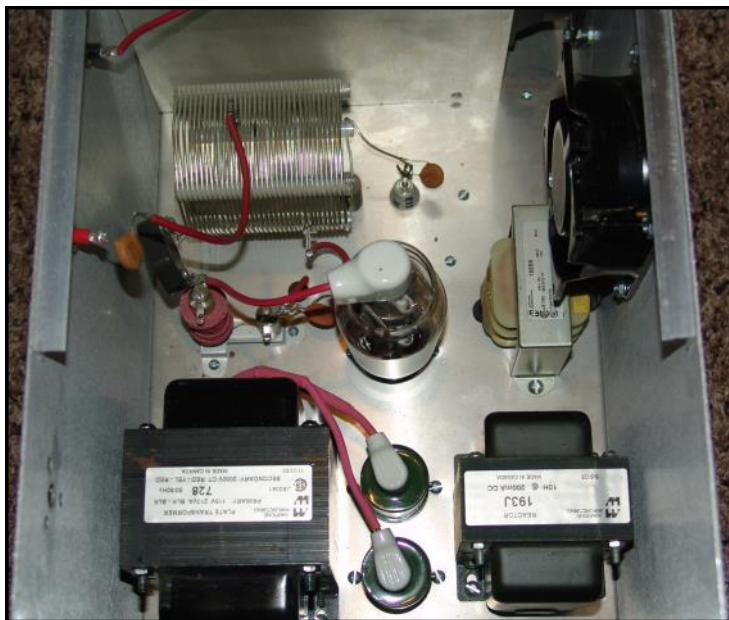
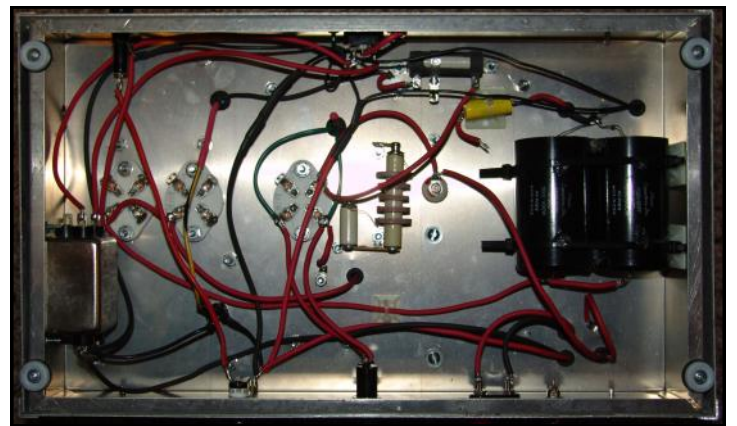
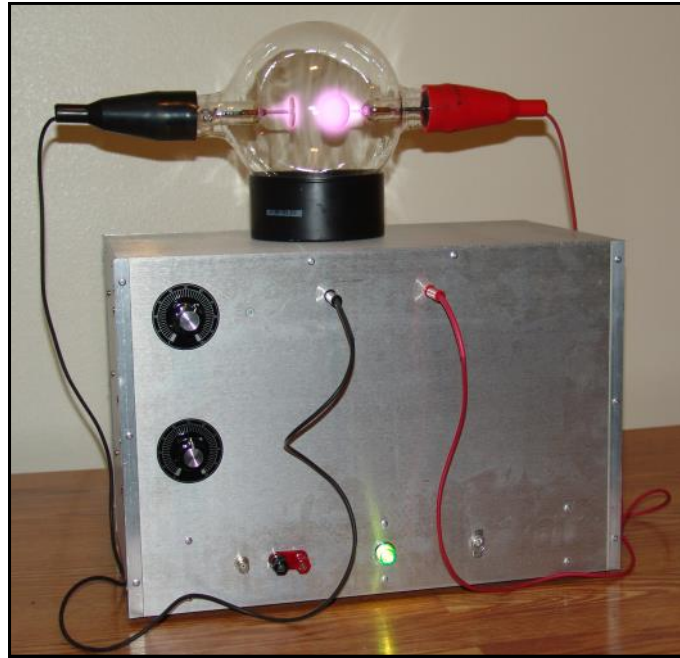
Scoon's Beam Ray Clinical replica instrument 3.30 Megahertz spectrum analysis of sideband harmonic frequencies.

Rife Ray #4 1,445,000 Hertz for Typhoid Virus. The 2nd Higher harmonic frequency is 2,890,000 Hertz. Scoon's audio frequency used for the proper sideband spacing is 16,620 Hertz. The 22nd lower sideband hit the M.O.R within 1/80 of 1%.

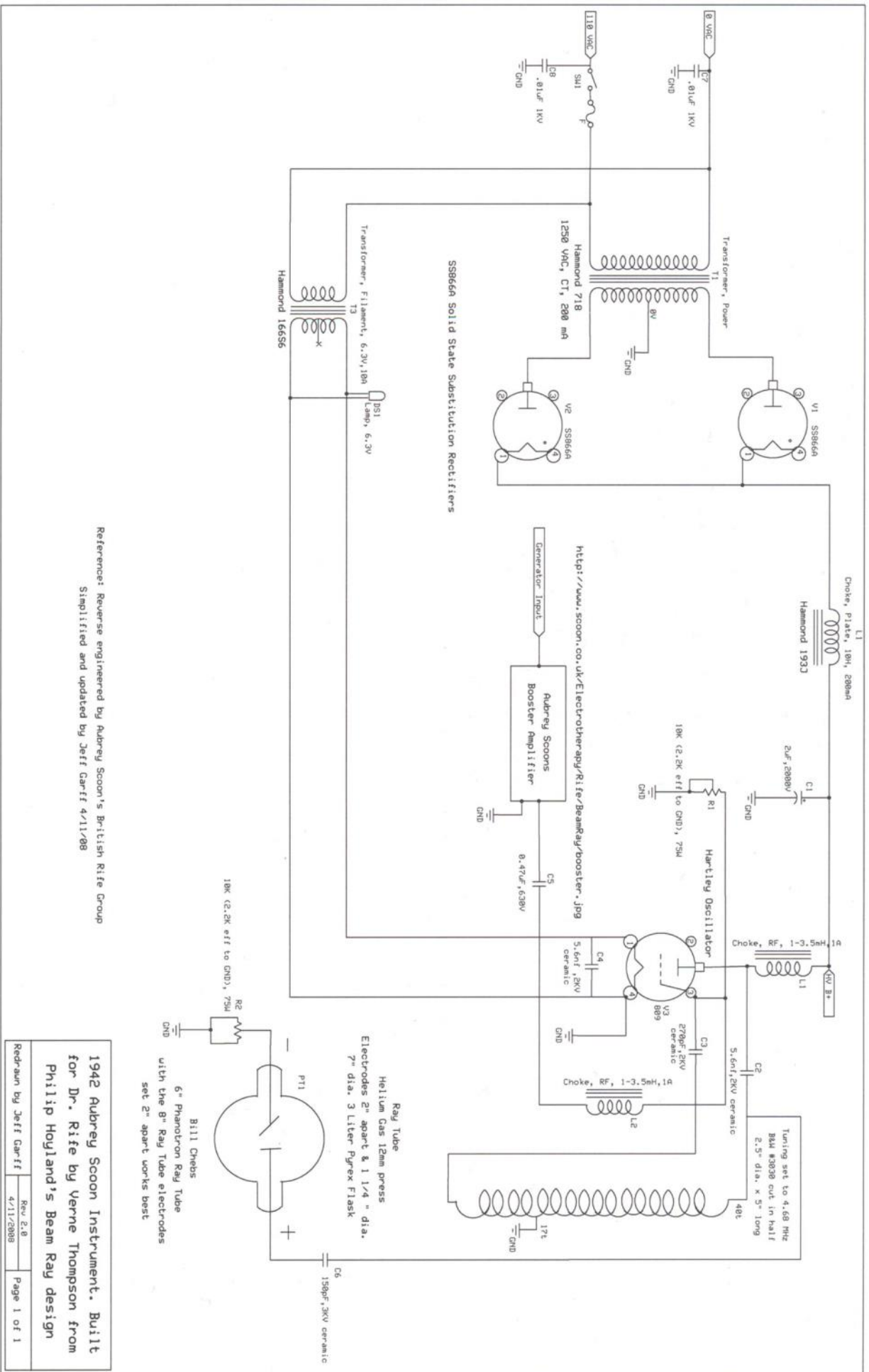


Scoon's Hoyland's Beam Ray Clinical replica instrument 3.30 Megahertz spectrum analysis of sideband harmonic

Photos of the rebuilt Aubrey Scoon Beam Ray Clinical instrument







## [Aubrey Scoon's 1939 Rife Beam Ray Website Report](#)



- 1) Used a Ray Tube.
- 2) Used a fixed 3.30 MHz carrier frequency.
- 3) Modulated sine wave audio frequencies onto a sine wave carrier frequency.
- 4) Power usage was about 460-watts. Output to the ray tube about 75-watts.

### **The 1939 Beam Ray Machine?**

Aubrey Scoon's instrument is an important part of this report. We felt that his information about this machine should be added and included in Chapter 11. All of this information was originally on Aubrey Scoon's web site but since he has passed away his website is no longer available. This information is too important to be lost. Even though we now know that his machine was not built by the original Beam Ray Corporation it is still a copy of the original Rife Ray #5 or Beam Ray Clinical instrument. This machine was built by Verne Thompson in 1952 or later and used the original 3.30 MHz RF carrier frequency. It also used Philip Hoyland's original audio frequencies that will produce the original sideband frequencies that will hit the higher harmonic frequencies of Dr. Rife's original M.O.R.s.

#### **Below is Aubrey Scoon's written Report:**

In 1938, a group of British researchers headed by Dr. Bertram Winter Gonin sought to buy some experimental machines from Rife to confirm his work. At that time, Rife had no commercial operation capable of handling the orders and at the instigation of his old friend Ben Cullen, Rife consented to the formation of a commercial company called Beam Rays Inc. At that time, the majority owner of the

rights to the machine was an electronics engineer called Philip Hoyland. Hoyland had designed and developed all of the original Rife machines since late 1934. Hoyland and Rife became partners in Beam Rays Inc. The company produced a small number of machines but suffered internal conflicts because of the actions of some of the other partners and because of friction between Hoyland and Gonin's group. Hoyland believed that Gonin and his partners were trying to steal the technology for themselves. Subsequently, the company was destroyed in 1939/1940 when Hoyland brought a lawsuit against Beam Rays in an attempt to stop one of the partners from illegal stock trading and also to dissolve the contract with the British. Fuller details of this are being written up and will be posted here in the near future.

The Beam Ray Corporation produced a number of machines. I'm not sure of the exact number as I have seen varying accounts, but I believe that about 17 machines were produced and shipped to MD's in California. Another four machines were shipped to England to Dr. B. Winter Gonin of the London School of Tropical Medicine. There was some argument between Rife and Hoyland over these machines and their operating principle, however various MD's including James Couche used one of these machines for many allegedly successful treatments of patients for many years.

The U.K. Rife Research Group managed to get access to one of the machines believed to be one of the originals that were shipped to California in the late 1930's. I reverse engineered that machine and present the results below. I have a lot of data on this machine of which this is only part, I will add things as I get time as much of the data needs to be organized properly. The exact date of the machine is unknown - we know that it was built sometime between the autumn of 1938 and the early part of 1939 - so it may actually be a 1938 machine.

I would like to express my thanks to Robert Harrison, an expert valve/tube engineer (I'm not a valve/tube expert) who gave me massive help and support during the reverse engineering process and who corrected numerous silly mistakes that I made! My thanks also to Stuart Andrews and Bob Haining for their help and support in this effort.

## **Machine Schematic**

Below are the machine schematics and links to some photographs. The schematics have been rendered into PDF format which allows them to be zoomed to resolve fine detail.

These machine schematics are only included in the online report due to the fact that some of them would not be readable. Please go to the following web address to obtain these schematics:

[www.rifevideos.com/aubrey\\_scoons\\_1939\\_rife\\_beam\\_ray\\_.html](http://www.rifevideos.com/aubrey_scoons_1939_rife_beam_ray_.html).

**WARNING:** These schematics are presented for information only. Do not try to construct a copy of this machine unless you are knowledgeable and experienced in high voltage valve/tube work. The tube filaments need to be heated for a couple of minutes before switching on the HT - failure to do this will blow them. In addition, some parts of this circuit use up to 1750 volts DC at substantial current and can easily kill in inexperienced hands.

## **Booster Amplifier Schematic**

At the same [www.rifevideos.com](http://www.rifevideos.com) link, given above, is the booster amplifier schematic. This is for a transistor booster amplifier I designed. It is possible to separate the Beam Ray machine output stage from the oscillator stage and to drive the output stage directly from a modern digital frequency generator. This allows much more precise and accurate frequency control than the original. But the output



stage requires over 40 V p-p to drive it properly at 100% modulation and most modern generators are not capable of outputting this kind of voltage. So the booster stage allows a low-level signal between 20Hz and 200Khz (the original range of the machine) to drive the output at up to approx 66 V p-p without significant signal distortion (it can be driven at higher inputs of up to 2 V p-p with clipping). An input of 951 mV will cause 100% modulation of the Beam Rays machine and an input of 1.5 V p-p will result in significant over modulation without distortion of the modulating signal itself. The booster amplifier has a bandwidth of approximately 800 kHz and so can also be used as a general-purpose wideband, high voltage buffer amplifier as well.

## Plasma Tube Photos

The first two photographs below show the Nazarov phanotron running on the Beam Ray Machine. And below in the third photo is a close-up of the electrodes of the original plasma tube.

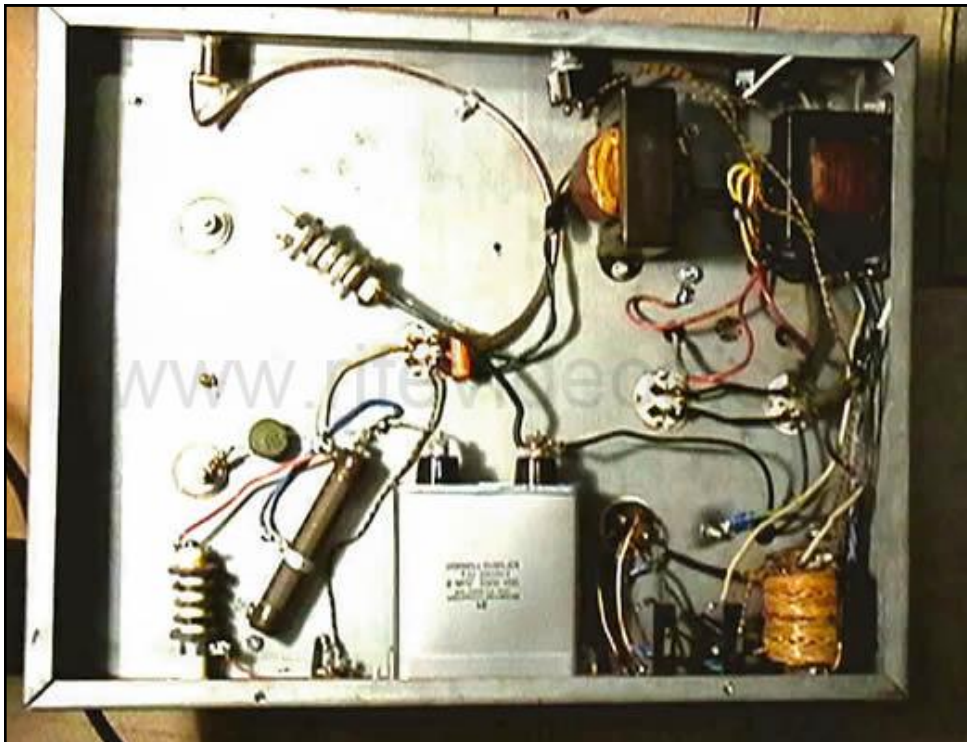


## Inside the Beam Rays Machine

The picture below is of the output stage of the machine. The tank coil can be clearly seen on the right with the 812 (should be 809) output triode next to it. The output jacks are in the center top. The HT transformer is at the back left with the two 866 mercury vapor rectifiers in front of it. Picture courtesy of Stuart Andrews.



The next photo below is the underside of the output stage (note that some components on both stages had to be replaced with modern ones to get the machine working because the originals had deteriorated too much).



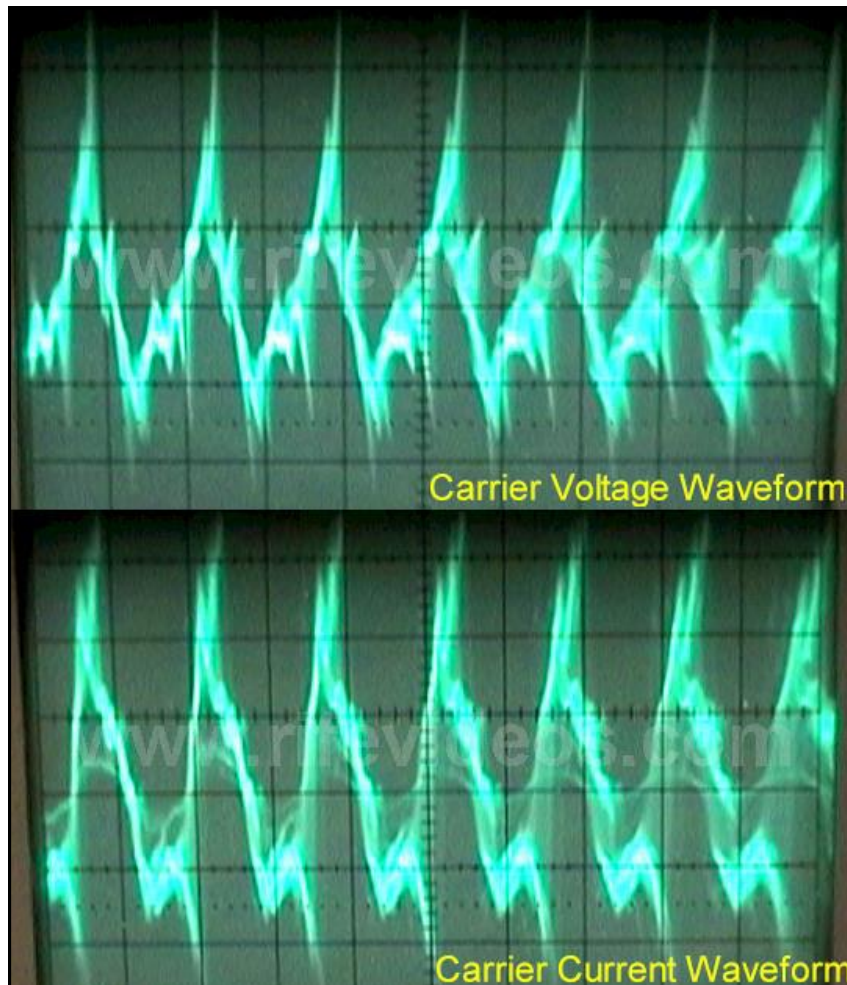


And this photo below is of the underside of the oscillator stage.



### Beam Ray Carrier Waveform Photographs

Here are various photographs I took of the machine's waveforms on an oscilloscope. Note: these were taken with the 812A tube in place. The waveforms produced when an 809 is used are smoother and more sinusoidal.





These photos on the previous page are the carrier waveforms for both voltage and current. The actual carrier frequency of the machine depends very much on the plasma tube and also on coupling effects between the tube and any person in the vicinity.

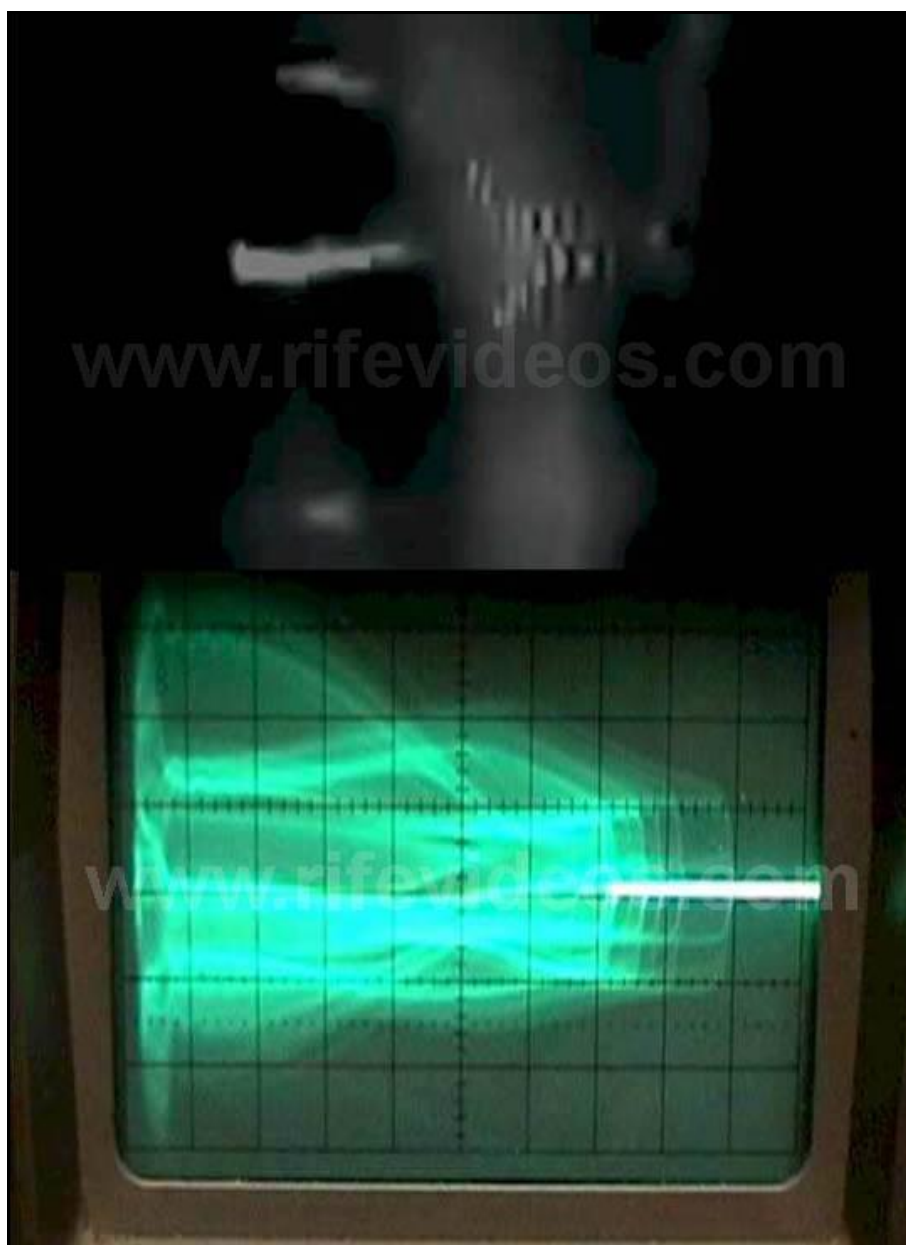
This has made it very difficult to get accurate measurements of the machine because even being in the same room as the machine causes the frequency to alter!

However, after many experiments I am reasonably certain that the resting carrier wave frequency, undisturbed by any local effects is approximately 3.33 MHz.

Because the wave is not a pure sine there are strong harmonics at many other frequencies as well. Some of the dominant harmonics have been observed at approximately 2.3 MHz, 4.6 MHz and 9.09 MHz.

### **Photo Comparison To Earlier Rife Machine**

Comparison of the wave from the original Rife machine (top) with the waveform from the Beam Rays machine (bottom). Note the similarities in the wave envelopes.



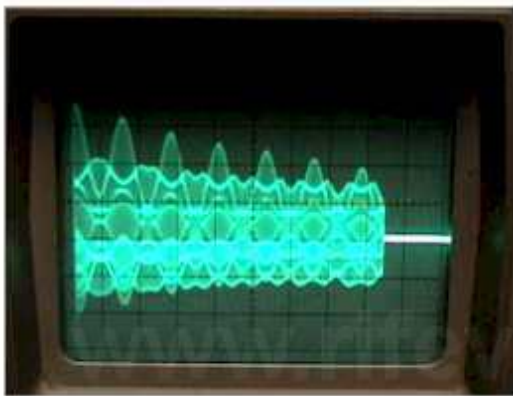
## Effect of Modulation Depth

Wave 1 - This is one burst of the tank waveform at 1430 Hz (scope settings on uncalibrated and adjusted for better resolution) and in excess of 90% modulation depth (sine wave).

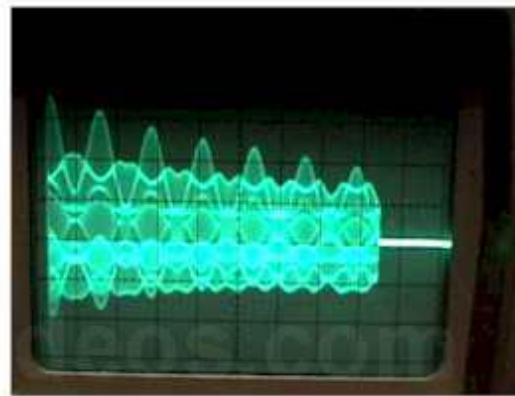
Wave 2 through Wave 4 - this is what happens as the modulation depth is successively increased  
Wave 4 - is pretty much 100%. The number of cycles per burst (a burst is approx 20ms apart and is set by the mains cycle) decreases with increasing modulation.

Wave 5 - as you enter over modulation, the burst breaks up into smaller chunks.

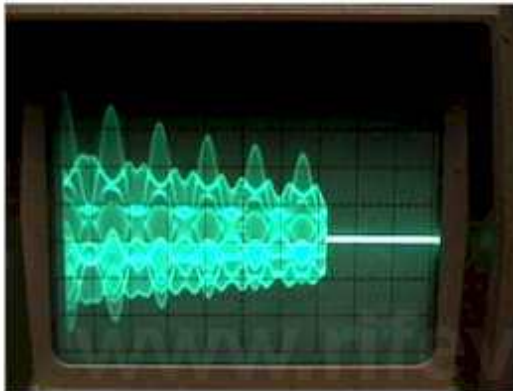
Wave 6 - at approximately 50V p-p modulation the wave is over modulated and consists of single-cycle pulses grouped into bursts.



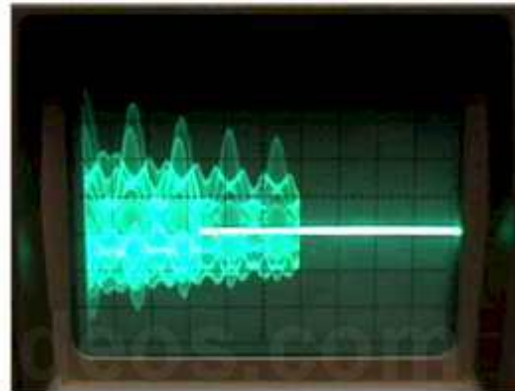
Wave 1



Wave 2



Wave 3



Wave 4



Wave 5



Wave 6

## Analysis Of Beam Ray Machine Operation

Below is a more detailed description and brief analysis of the operation of the Beam Ray machine.

The machine has 3 external controls. The leftmost one is a 4-way rotary switch with positions labeled 1 through 4. These are the (modulation) frequency bands of the machine. The total range of the modulation settings is from approximately 20 Hz to 200 kHz in 4 decades as follows:



### Band Frequency Ranges

**Band 1: 20 Hertz to 200 Hertz.**

**Band 2: 200 Hertz to 2000 Hertz.**

**Band 3: 2000 Hertz to 20,000 Hertz.**

**Band 4: 20,000 Hertz to 200,000 Hertz.**





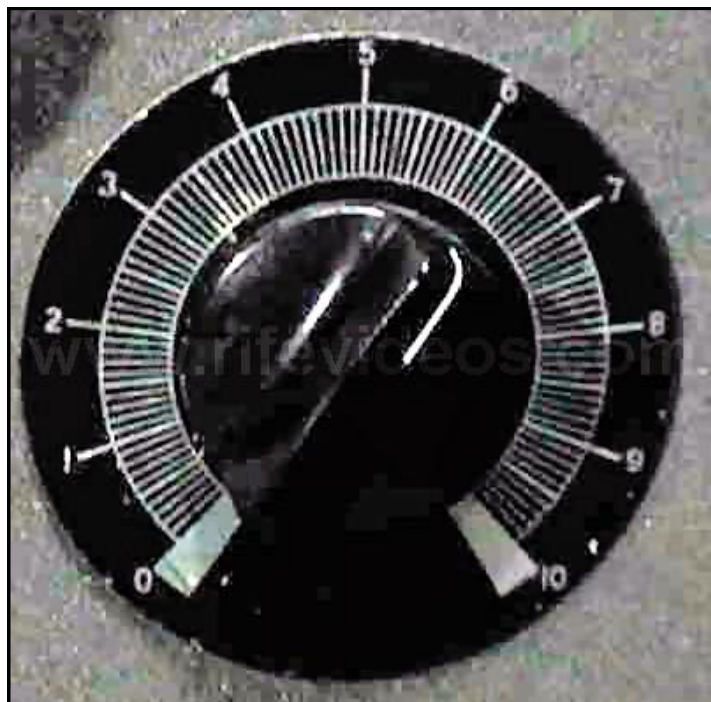
## Main frequency Dial Adjustment

The center control is the main modulation frequency dial. This is calibrated in one step units from 0-100. The dial superficially appears to be a vernier dial but isn't, although it is finely marked, of good quality and is geared down, so a single turn does not move it completely from end to end. A resolution of 1/2 a division is easily possible.



## Modulation Amplitude Control Dial

The right-hand control is the modulation depth control. It varies the modulation applied to the grid of the output triode from 0 to 50 V p-p. The highest setting of 50V p-p is not 100% modulation, but rather over modulation of about 115%.



## Treatment Settings

The machine came with some old diary pages with a series of treatment settings scribbled on them. The year of the diary was not shown, just the months but February was shown. It was not a leap year and by matching the days of the week to the dates it had to be 1939. There were the "usual" Rife pathogens plus a few more ailments that I had never seen quoted on any other early Rife machine list. Unfortunately, they were not all complete so it wasn't possible to derive the true frequencies for all of them. The anomalies included:

"V" with a setting of band 3, dial 39 - but I have no idea what this is.

"Radiation" with a strange setting of "2-17-3" which could mean band 2 or 3 dial setting 17.

Pain - "20", Iodine Poisoning - "92", Mercury Poisoning - "55", Tissue repair - "58", Scar Tissue - "13", Mucous Colitis - "38", Hemorrhoid - "88", Catarrh - "17", Inflammation - "40" and Irritation - "30".

The ones that could be clearly resolved are shown in the table Below. The treatment frequencies are all approximately 10 times the ones listed in the modern Crane derived frequency lists for the various conditions.

<b>Pathogen</b>	<b>Band</b>	<b>Dial</b>	<b>Frequency</b>
BX Carcinoma	4	10	21275
BY Sarcoma	4	6.5	20080
Typhoid Virus	3	94	18620
Typhoid Rod	3	58.5	6900
Tetanus	2	78.5	1200
Treponema or Syphilis	3	56	6600
Staphylococcus	3	59	7270
Streptococcus	3	63.5	8450
Streptothrix	3	61.5	7870
E Coli Rod	3	62	8020
E Coli Virus	3	89.5	17220
Tuberculosis Rod	3	63	8300
Tuberculosis Virus	3	88	16000
Pneumonia	3	61	7660
Worms	3	24	2400

## Audio Frequency Circuit Analysis



The most striking thing about the Beam Rays audio frequency circuit at first glance is the oscillator section. The machine oscillator is clearly a first-generation Hewlett Wein Bridge circuit. What makes this particularly notable is that Hewlett (Hewlett-Packard) only invented the circuit around the time the Beam Rays machine was built. Because it was so new and had not found its way into commercial designs it tends to imply that there might have been some connection between Hewlett and Beam Rays.

I have written a detailed account of the history entitled: "The Hewlett Connection." To read this report go online to: [http://www.rifevideos.com/the\\_hewlett\\_connection.html](http://www.rifevideos.com/the_hewlett_connection.html)

The earlier Rife machines had used the Hartley oscillator circuit which was nowhere near as stable as the Hewlett Wein Bridge. So the use of this circuit was a big step forward for Beam Rays. The earlier machines had been plagued with apparent frequency instability which made consistent use very difficult. The Wein bridge circuit was an apparent solution, but in practice, there was another factor that they apparently did not take into account.

The Beam Rays oscillator is remarkably stable - it drifts by only a few Hertz during normal operation and is superior to many modern analog generators. But it has one major drawback. Tuning is achieved by way of a variable capacitor. This capacitor is connected directly to the tuning dial. The tuning dial is a geared down dial that allows very precise turning of the capacitor shaft. However in practice, it suffers from a slight degree of "backlash" - in other words, no matter how carefully you turn the dial, there is always some residual pressure on the rotary shaft - and left to itself for a while this residual pressure or tension causes the capacitor shaft to turn back by a small amount. This is enough to throw the tuning out by a couple of Hertz in the lowest range - and the problem multiplies by a factor of 10 for each higher range. So in the top range, the backlash can throw the frequency setting off by approximately 2 kHz. In addition, because the relationship between the dial setting and the actual frequency is non-linear, the problem is always worse toward the top of the scale (i.e. the dial is calibrated



from 0 to 100 - the problem is much more pronounced near 100 than it is near 0). One of the ways in which this manifests most noticeably is that turning the dial down from a higher number results in a lower overall frequency than turning the dial-up from a lower number to the same final setting.

The frequency setting is obviously critical and this may explain why some frequency stability related problems were encountered even with this extremely good oscillator.

The presence of the Hewlett oscillator explains also the general build of the machine. When I examined the machine there were various minor anomalies. One of which was the size of the two chassis. They are both much bigger than they need to be. Also, there are two separate chassis and the earlier Beam Rays machines had only one. Another thing is that there is a circuit on the oscillator stage which is not connected and not used. This was probably meant to be able to create square waves by sine overdrive and clipping. Finally, the mounting holes on the chassis do not correspond with the mounting holes on the case - someone has drilled new holes in both chassis to remount them in the case. This could mean that the case the machine is in is not the original case it was shipped in. Alternatively, it could mean that the chassis was previously mounted in a different way (maybe in a different case) prior to shipping.

Taking all these things together leads me to the conclusion that the machine I examined is probably an original prototype. This makes sense considering that the Hewlett oscillator was so new. Obviously, Phillip Hoyland or whoever built the machine decided to try making the oscillator stage separately from the output stage. The output stage is presumably the same as in earlier Beam Rays machines (it looks the same as a 1937 Beam Rays machine), but clearly, they decided to build the oscillator on a separate chassis. The chassis were overlarge to allow for circuit expansion and modification. The unused circuit was probably tested at some point and found to be unnecessary. And it is likely that during development the different mountings were used on some sort of open frame to allow testing and measurement.

But this prototype machine was shipped and sold as a finished unit, why? The answer is probably quite obvious. The machine was produced during the great depression. Everything was expensive; Beam Rays was a small company and needed to keep down costs. The prototype was probably only needed during development. Once everything had been worked out satisfactorily, the prototype was no longer needed - and could be sold for a substantial profit, as it was effectively a working machine of a new design.

The 6SJ7 and 6K6(B) tubes on the combined schematic are the basic Hewlett Wein Bridge oscillator circuit. See ["The Hewlett Connection"](#) for a schematic of Hewlett's patented design. The third tube marked 6K6(A) is a simple cathode follower buffer stage, analogous to a modern transistor emitter follower circuit. This circuit has high input impedance, low output impedance and unity gain. It is designed to insulate the sensitive oscillator section from the following output stages. The 6SN7 tube is the unused circuit and as mentioned above was probably meant to be part of a fast clipper amplifier to produce square wave modulation.

The oscillator stage creates a pure sine wave from approx 20 Hz to 200KHz depending on range and dial setting. It also produces a variable amplitude output which can be adjusted from 0v right up to approx 50V peak to peak.

The [output stage](#) consists mainly of a single power triode. Although the machine had an 812A triode in it when I got it, I believe the correct original tube was an 809. The machine runs a lot more cleanly and stably with an 809 than an 812A. The stage is self-oscillating; it has a simple regenerative feedback arrangement from plate to grid via two capacitors and the tank coil. The degree of feedback can be adjusted by means of a large power resistor from the grid to ground.

**NOTE:** the machine was not actually grounded, the negative end of the supplies connected to the chassis and all "grounds" were actually referenced to the chassis. I found in practice that the chassis did tend to accumulate quite a nasty residual charge after the machine had been operating and so I grounded it which did not seem to affect the operation of the machine. The output stage is actually a Hartley oscillator, although not obviously so because the output capacitor in series with the plasma tube capacitance represents the "tuning" capacitance of the circuit. The large power resistor in series with the tube affects the oscillator loading, the output field impedance and also the Q of the resonant circuit. Because the plasma tube is an active circuit element, capacitive coupling from anybody in the vicinity of the plasma tube actually causes changes in the oscillator frequency. The "resting" frequency of the output oscillator is around 3.30 MHz using the 812A and an Argon (Nazarov) phanotron tube. When the tube was changed to an 809 and a 15mm Helium Chev phanotron was used, the "resting" frequency changed to 4.68 Mhz and the wave became much more sinusoidal.

The output from the modulation oscillator stage is capacitively coupled to the output triode grid via an inductor. The latter is designed to prevent the carrier oscillations from feeding back into the modulation oscillator stage.

The DC HT power for the output triode is derived from a 1235 VAC plate transformer by two 866 mercury vapour rectifiers. The DC output is smoothed via a large choke and a filter capacitor to ground. There is also an RFC choke in the line to the plate. The net voltage at the plate of the triode is only around 550V DC which is consistent with a choke smoothed circuit. However much more interesting is the other end of the tube - the filaments (which double as cathodes) are connected to a direct AC filament heater transformer which means that there is an additional modulation at the 60Hz mains frequency (cathode modulation).

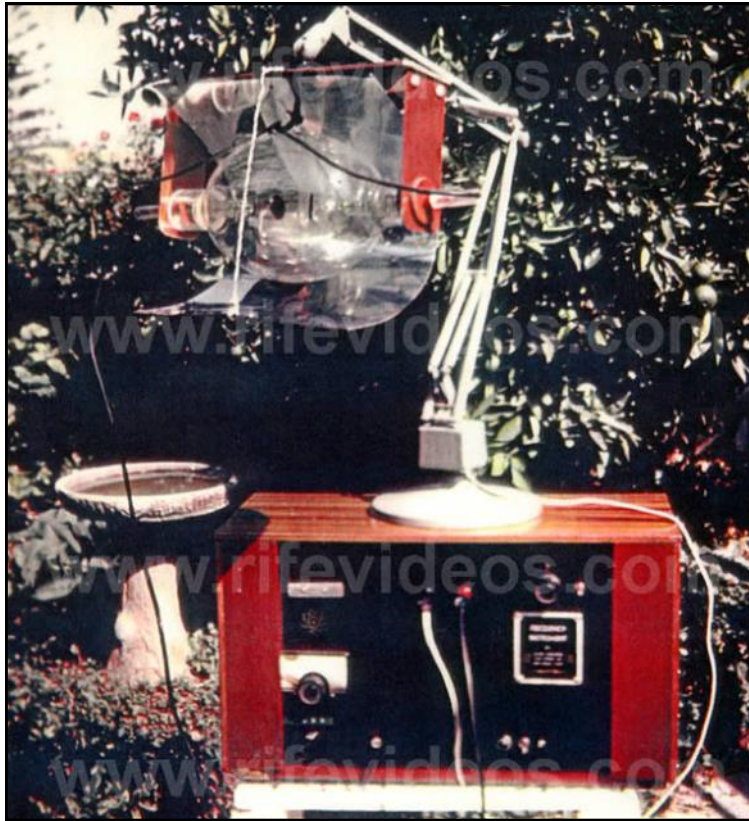
In practice during operation, the machine creates the carrier waveform (which is not very clean and contains a lot of harmonics - it has a superficial similarity to a sawtooth wave).

**UPDATE:** the carrier waveform is smoother with the 809, but still contains some strong harmonics. The carrier is then amplitude modulated by the sine wave produced by the modulation oscillator. However, in addition, the AC cathode connection causes a further modulation at 60Hz. In effect the modulated wave is chopped into chunks or bursts that are one period of a 60 Hz cycle apart. And the envelope of the wave is effectively the first quarter cycle of a 60Hz cosine wave. In some respects this is like a very crude approximation to a damped wave. I believe that the latter is not a design flaw but rather a feature.

In chapter 12, we will discuss the 1953 AZ-58 built by Verne Thompson and the history of that instrument in detail.

## Chapter #12

### Dr. Rife and Verne Thompson's 1950's AZ-58 Beam Ray Replica Rife Machine



1. Used a ray tube.
2. Variable RF carrier frequency between 2.20 and 5 MHz. (First used 4.68 MHz carrier).
3. Modulated square wave audio frequencies onto the sine wave carrier frequency.
4. Power usage was about 460 watts. Output to the ray tube about 50 watts.

With the knowledge gained from obtaining the original Rife Ray #5 or Beam Ray Clinical instrument, we know that the 1953 AZ-58 design is an updated replica of Philip Hoyland's Beam Ray Clinical Rife Machine. The 1953 version was updated with newer component parts. Dr. Rife's engineer, Verne Thompson had been building this type of Rife Machine during the 1940s and 1950s. We will now cover this information in more depth. This style of instrument worked well as long as it was using the side-band method. From the stress of the Beam Ray Trial, Dr. Rife became an alcoholic and all that he had worked so hard to accomplish was almost destroyed. Many of the doctors had returned their instruments because of AMA threats. Some of these returned Beam Ray Clinical instruments Dr. Rife parted out and sold to anyone who wanted radio parts. Under these circumstances, Beam Ray Corporation eventually closed its doors. Verne Thompson became Dr. Rife's engineer around 1940 and built the Beam Ray style Rife Machines during the 1940s and 1950s for anyone who wanted an instrument. The documents show that back in 1939 Dr. Rife wanted to go back to the original principles of his instrument rather than use Philip Hoyland's harmonic Beam Ray Clinical design. This is what Dr. Rife said in a 1939 letter sent to Dr. Gonin:

**RIFE:** *"I spoke only Friday evening to a Mr. John Chamblin, a radioman now connected with Beam Ray Inc., about the redesign and building of a device according to the old Rife Ray principles; as the present instrument has been so deviated away from that old principle that it is nowhere near the*



same...those devices which you have are merely working on a harmonic and not a true frequency; and in our research on electronics, we definitely know that there is no possible way of controlling electrical harmonics of a frequency.” [\(Letter from Dr. Rife to Dr. Gonin, May 14, 1939. Page 1 of 3\).](#)

Because Dr. Rife didn't understand Philip Hoyland's harmonic sideband method he believed that the harmonics could not be controlled. Sidebands can be controlled by the audio frequency which is used to create them. Had Dr. Rife been given the understanding of how the instrument worked he would have known that they were controllable. Because of this misunderstanding, Dr. Rife wanted to go back to the original designs of his earlier Rife Machines. It is also a historical fact that he never did go back to using his original designs like the Rife Ray #4. There is a reasonable explanation for this. Back in the late 1930s and early 1940's the FCC began controlling the airwaves and hundreds of new radio stations were being granted licenses. The RF M.O.R. frequencies which were output by the Rife Ray #3 and Rife Ray #4 were almost all in the A.M. radio band of frequencies and would interfere with these new broadcasting stations. These events probably brought about the continued use of Philip Hoyland's Beam Ray Clinical Rife Machine since it operates out of the A.M. band and in the low ham radio range. In [Chapter 9 of this report](#), we also read that Dr. Rife tested Philip Hoyland's instrument, in about 1940, when he had Verne Thompson rebuild Dr. Yale's Beam Ray Clinical instrument. In those tests, Dr. Rife found that Philip Hoyland's design would devitalize all the microorganisms. The tests that were done by Dr. Rife showed that this style of instrument worked. This meant that he really didn't need to go back to his earlier designs even though he may have wanted to.

There are a few important facts that should be pointed out. Dr. Rife at any time could have had an original Ray tube instrument built. He had a Rife Ray #4 in his lab that could have been copied. I am sure that he also had access to the Beam Ray Laboratory instrument. These facts, I believe show that it was probably because he knew that Philip Hoyland's design was a good design that he continued to use it. It could also be because of the FCC regulations Dr. Rife either had to use the Beam Ray Clinical instrument design or no longer build one. We know, from the documents, that Verne Thompson was copying Dr. Couches' instrument with its fixed RF carrier frequency of 3.30 MHz. This carrier frequency was well above the A.M. band of radio stations. Since the Beam Ray Clinical instrument used the higher harmonics of the original Rife Ray #4 frequencies this would not cause any problems with the A.M. radio stations. The FCC was, at the least, a contributing factor in why Dr. Rife continued to use Rife Ray #5 or the Beam Ray Clinical design.

With the understanding of this information let us continue on with the history of Dr. Rife's instruments. John Crane met Dr. Rife in 1950 when he inquired about purchasing a drafting set that Dr. Rife was selling. John Marsh met John Crane in 1952 when they were both working at Convair. See photos below. John Crane is the photo on the left and John Marsh is the photo on the right.



They both went to talk to Dr. Rife in 1953 to see if he would be willing to help with John Marsh's wife who had cancer. In [Dr. Rife's 1961 deposition #123-125](#) we have the verification that Dr. Rife gave John Crane his frequencies in 1950:

**COMPARET:** *"Did you ever explain to John F. Crane, one of the defendants, in this case, the principles upon which your electronic frequency-generator is used in the treatment of diseases?"*

**RIFE:** *"Yes in 1950."*

**COMPARET:** *"Did you also inform him of the particular frequencies which you had found to be effective in the treatment of various diseases?"*

**RIFE:** *"Yes. Verne Thompson and I gave the frequencies to John Crane."*

**COMPARET:** *"When did you furnish him with this information?"*

**RIFE:** *"In 1950."*

Dr. Rife always said that almost all his frequencies were in the upper bands (139,200 Hertz to 1,607,450 Hertz) so we know that he gave these high RF frequencies to John Crane in 1950. These frequencies would have been the frequencies used in the [Rife Ray #4](#). The audio frequencies that were used in Dr. Couche's Beam Ray Clinical instrument also may have been given to John Crane at this time. There is an interesting correlation of these audio frequencies that needs to again be mentioned at this time which ties these machines together. The higher audio frequencies, which produce the side-band spacing, used in the 1950's Aubrey Scoon, Verne Thompson Beam Ray Clinical instrument were 10 times higher than those used in the Verne Thompson 1953 AZ-58 Beam Ray Clinical replica. It is apparent that these higher audio frequencies were lowered in the 1950s by Dr. Rife, John Crane, and John Marsh and were used in the AZ-58 replica instrument. This gives us the knowledge that these audio frequencies came from Verne Thompson's reading of one of these Beam Ray Clinical instruments. The chart, shown below, is a list of the lowered audio frequencies which were used in the 1953 AZ-58.

<b>AZ-58 Lower Audio Frequencies Derived From Aubrey Scoon's Beam Ray Replica Instrument.</b>			
B or E Coli Rod	800Hz	Streptothrix	784 Hz
B or E Coli Virus	1552 Hz	Syphilis or Treponema	660 Hz
BX Virus Carcinoma	2128 Hz	Tetanus	120 Hz
BY Sarcoma	2008 Hz	Tuberculosis Rod	803 Hz
Gonorrhea	712 Hz	Tuberculosis Virus	1552 Hz
Pneumonia or Spinal Meningitis	776 Hz	Typhoid Rod	712 Hz
Staphylococcus	727 Hz	Typhoid Virus	1862 Hz
Streptococcus	880 Hz		

The original Beam Ray Clinical instrument we have has an RF carrier frequency of 3.80 MHz. Aubrey Scoon's Beam Ray Clinical replica instrument's RF carrier frequency is 3.30 MHz. The audio frequencies Aubrey Scoon's instrument used, we showed earlier in this report, will not work with the original Beam Ray Clinical instrument that we have because the audio frequencies have to be matched

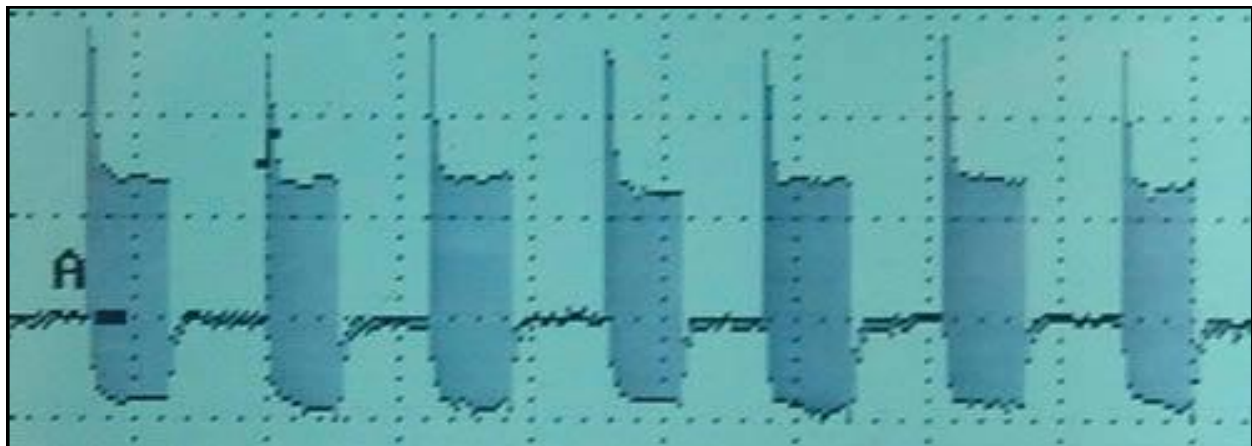
to the RF carrier frequency. The AZ-58's RF carrier frequency was set at 4.68 MHz as written down on the schematic and as per the FCC. Aubrey Scoon's Beam Ray Clinical instrument audio frequencies would not produce the correct sideband spacing with the AZ-58 RF carrier frequency because the audio frequencies are calculated to work with a 3.30 MHz RF carrier frequency not a 4.68 MHz RF carrier frequency. This also verifies to us that Philip Hoyland was using different RF carrier frequencies in the Beam Ray Clinical instrument. It also indicates that both Rife and Verne Thompson did not understand the importance of using the correct RF carrier frequency with the correct audio frequencies.

John Crane said this in his "Crane Report":

**CRANE:** *"The instruments were completed by Crane and Thompson in 1953, but the test results were negative."* ([The Crane Report" page 6](#)).

With the carrier frequency set at 4.68 MHz as per their FCC license, instead of 3.30 MHz, the audio frequencies they used would not make the correct sideband spacing and the instrument wouldn't have worked as they expected. Logically, if they understood the relationship of the RF carrier frequency and the audio frequencies they would have to change the RF carrier frequency back it to 3.30 MHz or recalculated new audio frequencies to work with the 4.86 MHz RF carrier frequency, but they didn't do either.

Even with the wrong RF carrier frequency Dr. Rife, John Crane, and John Marsh would have first tried the higher audio frequencies in the sine wave waveform like the original Beam Ray Clinical instrument used. Apparently when this didn't work, because the carrier frequency was wrong, they lowered the audio frequencies by a factor of 10 times and then changed the sine wave waveform to a square wave waveform. This appears to be the first time a true square wave was used. This change from sine wave to square wave wasn't really necessary since the circuit design will create a square wave looking waveform out of a sine wave anyway. The photo below, is of the AZ-58 waveform.



Using the square wave waveform would not have changed how the sidebands would have worked. But it would have created true square wave harmonics which the instrument did not have when it was using the sine wave waveform. John Crane mentions that this is when the instrument started to work better. So we are left to assume that he was referring to the use of the square wave waveform. It is ironic that they used a square wave waveform that produces harmonics in order to get the instrument to even begin to give them any results. Had they really understood how the audio frequencies interacted with the RF carrier frequency they would have recalculated the audio frequencies to work with the new 4.68 MHz carrier frequency instead of lowering the audio frequencies by a factor of 10 times. Then the square wave waveform change would not have been necessary. These important facts that have been pointed out again show they did not understand the relationship between the RF carrier frequency and the audio frequencies. All they managed to prove is neither the carrier frequency nor the audio frequencies will do anything by themselves.



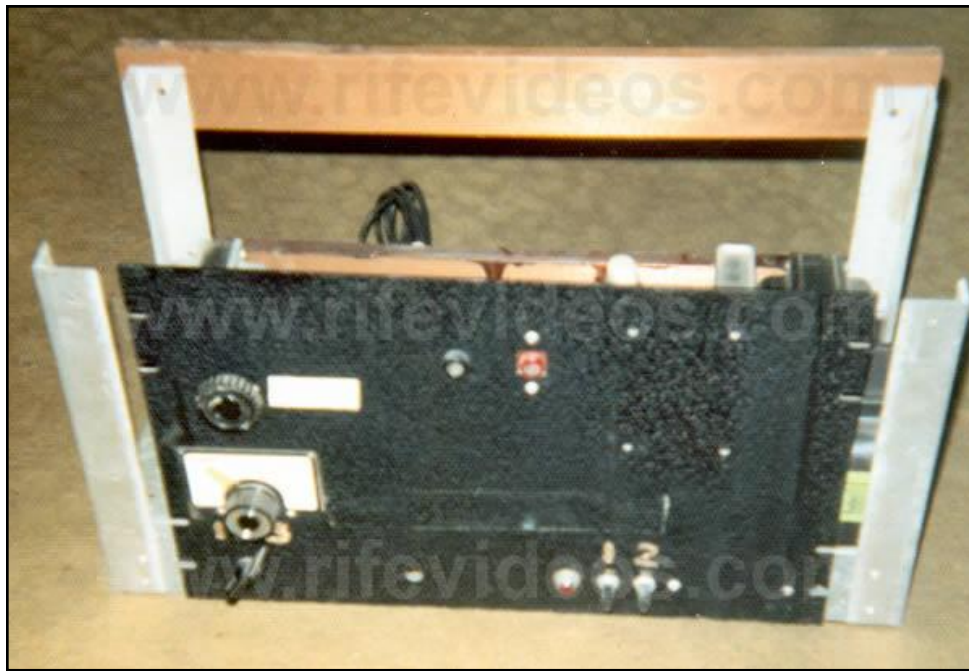
This change from sine wave to square wave also created a whole new methodology of using frequencies. Instead of relying on the interaction of the sine wave audio frequency with the sine wave RF carrier frequency to produce the correct sideband harmonic M.O.R. to devitalize the organisms they were now depending only on the harmonics from the square wave waveform to hit the correct M.O.R. frequency. This change was also another indication that they didn't understand how the Beam Ray Clinical instrument worked.

Another thing that shows that they did not understand how the Beam Ray instrument worked is the fact that they didn't recalculate the audio frequencies to properly use the square wave harmonics to hit the high-frequency M.O.R.s. This shows that they believed that the lower audio frequencies, which they were using, were the M.O.R.s. of the organisms even though they had no harmonic relationship with the original M.O.R.s. used in the Rife Ray #4. We must point out that the square wave mathematical method we are talking about here is completely different than the harmonic sideband method which Philip Hoyland used.

In many of the documents, we find that both John Crane and John Marsh firmly believed that these lowered audio frequencies were the M.O.R. frequencies that would devitalize the organisms. Even Dr. Rife appears to have believed that the audio frequencies were the M.O.R.s. as long as they were used with Philip Hoyland's Beam Ray Clinical design. In Dr. Rife's original equipment like the Rife Ray #3 and the Rife Ray #4, he knew that the M.O.R. frequencies were the high RF frequencies. But since Dr. Rife didn't really understand exactly how Philip Hoyland's instrument worked it appears that he accepted the concept that the audio frequencies were the M.O.R.s, or created the M.O.R.s, as long as they were used with that style of instrument. Without understanding these facts it is hard to understand the rest of the history of Dr. Rife's instruments. The fact that they believed that the audio frequencies were the M.O.R.s. compromised the effectiveness of the 1953 AZ-58 Beam Ray Clinical replica.

Below and on the next page are four photos of ray tube instruments which Verne Thompson built. The first instrument was Aubrey Scoon's 1950's Beam Ray replica. The second instrument is believed to have been built in 1947 but some of the transformers are 1960's vintage which indicate it was built in the 1950's or 1960's. The audio frequencies used in it were even lower than the 1953 AZ-58. Since all the evidence we have shows that the lower audio frequencies began with the 1953 AZ-58 this indicates that the instrument was not built in 1947 but was built sometime after 1953. The third and fourth photos, on the next page, are of two of the AZ-58 instruments built by Verne Thompson in 1953 for Dr. Rife, John Crane and John Marsh of Life Labs Co.

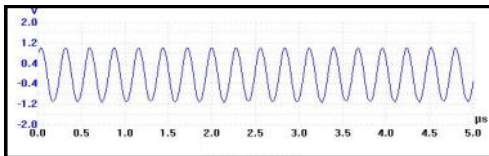




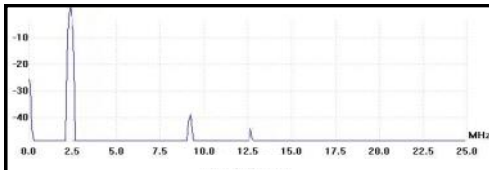
All four of these instruments, like the Beam Ray Clinical instrument, had the fixed Hartley Oscillator section which created the RF carrier frequency. Verne Thompson changed the 809 tubes to the 812 tubes as he updated the instruments from the 1940s to the 1950s. All three instruments also had one main frequency dial for adjusting the audio frequencies. The other two smaller dials were for adjusting the modulation amplitude of the audio frequencies and changing the audio frequency bands. These bands would take you through the various audio frequency ranges. The AZ-58 was limited to about 6000 Hertz, using 3 bands, because they lowered the audio frequencies. The original Beam Ray Clinical instrument we have went to just over 40,000 Hertz using 4 bands. The 1950's Aubrey Scon Beam Ray Clinical replica instrument could go to about 200,000 Hertz using 4 bands. Other than the bands there is very little difference in the way these instruments worked. We built two of the three, tested them, and found no significant difference other than the use of sine or square wave audio frequencies. At any time the AZ-58 could have been changed to work on the original Beam Ray Clinical sideband method just by adding a fourth band and then recalculating the audio frequencies to work with the 4.68 MHz RF carrier frequency. As pointed out before we made some tests with the spectrum analyzer to see if the square wave could be used instead of a sine wave in creating the proper sideband spacing and found that the square wave waveform produces the same sidebands as the sine wave waveform.

The basic design of Philip Hoyland's Beam Ray Clinical instrument is very apparent when you compare the schematics. Six of the 1953 AZ-58's were originally built by Dr. Rife, John Crane, and John Marsh. We decided to test the AZ-58 with the spectrum analyzer. Below in the graph, you can see the results of these tests.

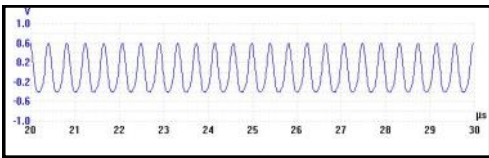
**Testing done with PicoScope 3205 spectrum analyzer at 2,400,000 Hertz using AZ-58**



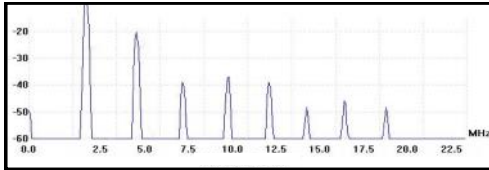
Sine wave out of AZ-58 at 2,400,000 Hertz.



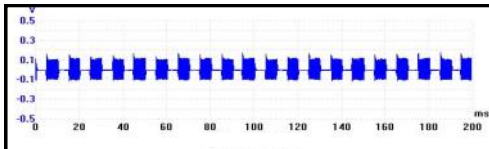
AZ-58 without ray tube at 2,400,000 Hertz measured with spectrum analyzer showing no real harmonics.



Sine wave carrier out of AZ-58 at 2,400,000 Hertz using ray tube. Sine wave carrier was always distorted when put through a ray tube.



AZ-58 at 2,400,000 Hertz using ray tube. Measured with spectrum analyzer showing harmonics all the way up to 20,000,000 Hertz.



AZ-58 at 2,400,000 Hertz using ray tube. Showing 50% square wave audio frequency modulation. The square wave shows some distortion.



The instrument called the AZ-58 is significant because we have more information about what took place in the 1950s than any period before this. At this time in the 1950s, John Crane and John Marsh [recorded interviews with Dr. Rife, Dr. Couche, Ben Cullen, Henry Siner](#) and many other individuals who were key players in the early years of Dr. Rife's work.

We will now cover in more detail the history of the 1953 AZ-58 instrument so we have more information about this instrument. Some of the information comes from the John Marsh Collection of Rife audio CD's. As we said, in 1950 John Crane met Dr. Rife and in 1952-53 he met John Marsh. John Marsh became John Crane's supervisor at Convair Aeronautics when John Marsh moved from Tucson, Arizona to California. John Marsh's wife had cancer and they were not able to help her in Tucson. The doctors recommended that he take her to San Diego for specialized care. John Marsh and John Crane became friends. John Crane told John Marsh about Dr. Rife and they went to see him. Dr. Rife gave them an old Beam Ray Clinical instrument which they had Verne Thompson repair. John Crane and John Marsh then used this instrument on John Marsh's wife and after several treatments, John Marsh said she fully recovered. Here are John Marsh's statements which he made in 1976 and 1986:

**MARSH:** (1976) *"I met this Rife. I said Dr. Rife, I said, my name is John Marsh, I've got a wife that's dying. She's got cancer of the uterus."* Dr. Rife said: *"I won't touch that thing with a 20-yard pole."*

After some discussion Dr. Rife said:

**RIFE:** *"I have an old instrument down here in the basement."*

**MARSH:** *"I dug up that old instrument and of course it had tubes in it, antique stuff, and so I rebuilt the darn thing."* ([John Marsh Rife CDs, CD 10 track 1](#)).

**MARSH:** (1986) *"I went to see him [Dr. Rife], and I talked with him and he said he didn't want to have any part of it...I said look, I got a wife that's dying and I need your help! And so I got him out of his cocoon, so to speak, and we took an old instrument and rebuilt it. And I treated my wife and by darn, all the pain left her and she got well." In another part of the tape, he said: "I discovered that this Dr. Rife was a very great individual...I told John [Crane], I said look if we have any of those old instruments laying around loose, let's rejuvenate one of them and see if we can get my wife well. Well, Verne Thompson who was with the San Diego police department radios, uh, radio expert, uh, had built some instruments and they were antiques when I saw them."* ([John Marsh Rife CDs, CD 2 track 3](#)).

John Marsh and John Crane then decided they would like to work with Dr. Rife and try to get the frequency instruments rebuilt and back into the doctor's hands. They wanted to help people who were suffering from many incurable diseases. From earlier quotes, we learned that Verne Thompson had worked on Dr. Yale's Beam Ray Clinical machine. He knew how to build these instruments and this is why John Marsh and John Crane had him repair the instrument that Dr. Rife gave them. It is apparent that Verne Thompson knew this instrument's circuit designs very well but he didn't understand how the Beam Ray Clinical instrument was using harmonic sidebands to hit Dr. Rife's higher harmonic M.O.R.s. From a [patent application that Dr. Rife and Verne Thompson filed](#) we know that Verne Thompson also believed the audio frequencies were the M.O.R.s. This document leads us to only one conclusion; no one in the 1950s understood how Philip Hoyland's sideband spacing method worked.

John Crane in his later years (1970's & 1980's) was not being very truthful in some of his statements. He said this in his paper titled "The Crane Report":

**CRANE:** *"Unfortunately, Rife had enlisted the help of electronic experts in the thirties (1930's) who never wrote down the details of the instruments. Rife was unable to duplicate the marvels of his earlier Frequency instruments."* ([The Crane Report, page 6](#)).

The documents we have read in this report show that Dr. Rife was having Verne Thompson build and repair the Beam Ray instruments originally built in the 1930s. For this reason, we know that John Crane's statement, in his report, was not truthful. The facts have shown that this instrument design came from Philip Hoyland. It was Verne Thompson who updated the Beam Ray Clinical instrument for Dr. Rife, John Crane and John Marsh in 1953. If Verne Thompson was building these Beam Ray Clinical instrument then he surely would have had a schematic for them.

Others have felt that John Crane took advantage of Dr. Rife. John Marsh also believed that John Crane took advantage of Dr. Rife in the 1960's and early 1970's before his death. Two statements from his letters confirm this belief:

**MARSH:** *"I've much of Rife's original research data in my care. Given to me by Rife. John Crane knows nothing of it or my research, nor am I interested in his (assistance?) as I've done quite well, not money-wise but intelligence-wise, very well without him. He had kept Rife in alcohol with the front of friendship, thus taking everything he could from Rife when Rife wasn't alert to John's intentions."* ([Letter from John Marsh to Christopher Bird 08-03-1982](#)).

**MARSH:** *"I loved that man [Dr. Rife]. A real live gentleman in every way possible. Crane was and still is so money-mad that he couldn't see these finer things in Rife. I being an artist could see this beauty. Truly a great man in any way and every way possible. How grateful I am that I had the honor to work beside him and to know just a little about him. Very few any greater."* ([Letter from John Marsh to Christopher Bird 08-23-1982](#)).

As can be seen from these two quotes John Marsh believed John Crane took advantage of Dr. Rife in the 1960s and early 1970s but the evidence does not support this in the 1950s and early 1960s. Here is a quote from the John Marsh Collection ["Trip to Dayton Ohio Papers"](#) and [Gonin Papers](#). Dr. Rife, John Marsh and John Crane were talking at great length about John Marsh's trip to Ohio to see Dr. Robert P. Stafford M.D. In the Gonin papers, they talked about the frequencies. I would recommend that everyone read these papers because they show that Dr. Rife, John Crane and John Marsh worked as a team. They also show that John Marsh and John Crane considered the frequencies to be Dr. Rife's and the AZ-58 Beam Ray replica instrument to be Dr. Rife's instrument. The following statements confirm this:

**RIFE:** *"Well I have lived my life for the benefit of humanity, and it is the end result of the accomplishment."*

**MARSH:** *"Yes, now here is what I did tell them. They wondered where I fit into the picture. I told them I had layouts at the base, I designed part of it. You would say that I was possibly not an exactly an inventor, but I think we are all co-inventors of a sort by adding what we think would make the instrument better and if they try to validated [verify] any of the statements that I have said to them please don't let me down, and say no this isn't so, which might upset what might be the truth to them. I mean just by accident. Now what I mean by that is this. I don't think that I have in my own right lied to them. I did [didn't] try to impress them with the idea that I was the one that did it. I did impress that you [Dr. Rife], John Crane and myself had worked together on this thing, but that you [Dr. Rife] were the inventor and John [John Crane] was the designer and inventor, co-inventor and myself for putting this thing together and making it. They asked if I helped putting this thing together and making it from time to time. I couldn't tell them that I didn't, because if I had built up a feeling in them that I knew nothing about what I was doing; psychologically that could have torn down, or have caused delay the foundation that now is laid. Now I think we have a solid footing there. I under no circumstances would want that torn down, and I will not under any circumstances accept the credit for this instrument as being invented because it is Rife's instrument as printed on the plate in front and that is one of the reasons in building you up to them, which I don't think is unwarranted; not by a darn sight, and that is why they want you there. They*

want to hear you talk, and they also want to know your past experiences with the people of La Jolla and also I was very happy to have received the paper concerning the Dr., etc. because I'm sure Stafford will contact every blooming Dr. that you had given him to me and I turned over all the letters to him, because I didn't want anything to stand in the way if he could contact him, now whether he would do that before he would talk to the group, and I do not know. I suppose he will, but he wants the truth as badly as you do. Now I don't know an easier way it can be done. I don't think there is going to be an easy way to get it on, but I think I've outlined this thing. I studied the moves I was going to make before I ever went there. I studied what I was going to do if I had the opportunity to do so, which I did."

**RIFE:** *"Well I think that you did a very excellent job."* ([1957 John Marsh trip to Dayton, Ohio #8, 9 and 16](#)).

And in the John Marsh Collection, Gonin Papers we read:

**CRANE:** *"So the frequencies [audio] we have written down. I will give you those or Rife will give them to you. I think you ought to have them. Each one [organism] has a different frequency, you see. I don't remember any of them off-hand. I should memorize them all, but I haven't yet. I've just written them down and they are in the lab."*

**GONIN:** *"Those frequencies that you have written down, would only apply to your own machine [AZ-58], wouldn't it?"*

**CRANE:** *"That is because they have been calibrated for each machine. Each machine has its own calibration."*

**GONIN:** *"And that's constant?"*

**CRANE:** *"Yes."* ([John Marsh Collection, Gonin and Siner Papers, Page 15](#)).

After reading these documents the facts stand out that all three of these men knew the audio frequencies and they were not John Crane's invention. Both John Marsh and John Crane considered the instrument to be Dr. Rife's. Dr. Rife also had a plaque on the front of the instrument with his name on it. It is also clear from John Marsh's papers that Dr. Rife was not on the sidelines but he a working partner in Life Labs. Dr. Rife by this time had become what some people call a "working alcoholic." This type of drinker would have a little to drink during the day to take the edge off but would not be a total drunk. The documents show that Dr. Rife knew the audio frequencies that were used in the AZ-58. But it is clear that he didn't understand how those audio frequencies worked with the RF carrier frequency with Philip Hoyland's design. On the Rife CD's all of Dr. Rife's recorded conversations were very positive about the 1953 AZ-58 instrument. This does not sound like a man who was ignorant of what was going on, as some have claimed.

Anyone who reads the documents from this period of time can tell that there were a lot of high hopes for this instrument and the lower square wave audio frequencies it was using. Now the real question is how well did this instrument work when it was only working on square wave harmonics? There were a lot of good reports on how well the instrument worked but what really counts is how well it worked in the hands of the doctors who used it on their patients. Dr. Robert P. Stafford M.D., used the AZ-58 for 5 years on his patients and wrote a report and sent it to Dr. Rife, John Crane and John Marsh. The photo, at the top of the next page, is a picture of Dr. Robert P. Stafford M.D.





[Dr. Stafford's report](#) is very favorable on many conditions that he used the AZ-58 on but when it came to cancer this instrument did not work as well as the Beam Ray high-frequency harmonic side-band method. Dr. Stafford's report showed he treated 16 cancer patients and had a varied response rate using the AZ-58 on cancer. We must point out that the instrument did temporarily help some of his cancer patients while others did not see any benefits. [Two of the women](#) that he treated received a lot of benefits but died from other complications. This made it so that he could not say they were cured by the instrument. When the first woman was autopsied she only had a small amount of cancer left in her breast. When Dr. Stafford started treating her she had cancer in several other places including her neck. Had she not died from a fall she probably would have fully recovered.

The second woman had cervical cancer for which other doctors used a great deal of radiation therapy. Dr. Stafford treated her at the hospital and after about four weeks she went home. She died of radiation damage that was done to the tubes that go from the kidneys to the bladder. When she was autopsied they found no cancer cells in her abdomen. In this case, the cancer was completely gone. Since neither of these women lived for at least five years they could not be considered cured. So Dr. Stafford could never say that he had cured anyone of a terminal malignancy. He said this about the AZ-58 square wave audio frequency instrument:

**DR. STAFFORD:** *"As yet, we have failed to "cure" any case of advanced, terminal malignancy. It appears in several instances that we may have impressed the disease favorably, temporarily. It is difficult to rule out the psychological, morale booster effect to the terminal patient when some definitive effort is made again in his behalf. However, several improvements have appeared to be more physical than emotional...All the patients in the series were treated with the same frequencies (e.g., 728 - 784 - 880 - 2008 - 2128). Perhaps these frequencies may be wrong, or only nearly correct."* ([John Marsh Collection, Dr. Stafford's Report on using the AZ-58, page 4](#)).

It is clear that Dr. Stafford was questioning the accuracy of the square wave audio frequencies and felt that something was wrong. Everyone who has been around Rife technology for a long time has seen the very same results as Dr. Stafford. From time to time we see that someone has an amazing experience of recovery from cancer but for the majority, this does not happen. Today these frequencies **728, 784, 880, 2008 and 2128** Hertz which Dr. Stafford used are the same frequencies used by just about everyone for cancer.

Many have wondered why the AZ-58 worked well for a few patients and not for others. We believe we know the reason why. The RF carrier frequency is the reason it worked. The AZ-58 RF carrier frequency was set at the new 4.68 MHz to comply with the new 1950's FCC license. Dr. Stafford changed the RF carrier frequency using the variable capacitor to operate between 3.10 MHz to 3.30 MHz with the two women who were treated for cancer. He also used this same RF carrier frequency with some of his other patients. If perchance the RF carrier frequency was set at about 3.20 MHz it would have been only about 15,000 Hertz off of the second higher harmonic of Dr. Rife's original BX cancer virus frequency, which was 3,214,900 Hertz. This second harmonic of the BX ( $1,607,450 \times 2 = 3,214,900$  Hertz) was the primary frequency used by Philip Hoyland in the Beam Ray Clinical instrument for the BX cancer virus. If an audio frequency of 2128 Hertz (AZ-58 BX audio frequency) was used, and it was, it would have created many harmonic sideband frequencies and the 7th harmonic sideband frequency would have hit Dr. Rife's higher harmonic BX frequency of 3,214,900 Hertz. We need to keep in mind that Dr. Stafford also used 728, 784, 880 and 2008 Hertz. It would have been almost impossible for him not to hit the BX frequency of 3,214,900 Hertz with one of the sidebands from all these frequencies. If we also take into account the "one-tenth of one-meter" tolerance frequency of 858 Hertz it gives room for the frequency to be off a few hundred Hertz and still work. What we have just explained is the reason why we think the AZ-58 worked so well on these two women.

It is also known that Dr. Stafford tried other RF carrier frequencies. Once he changed the RF carrier frequency the instrument would have been relying completely on the harmonics from the square wave waveform of the audio frequency. This would have greatly affected the outcome of his testing. The fact is the square wave harmonics method did not work as well as the Beam Ray Clinical sideband spacing method. **The real problem is almost everyone believes the square wave audio frequencies are Dr. Rife's true M.O.R. frequencies.** The evidence shows that John Crane and John Marsh believed the audio frequencies were the true M.O.R. frequencies and they had given this understanding to Dr. Stafford. Without the correct understanding of how the instrument worked Dr. Stafford would not have understood how important the fixed RF carrier frequency was. If he changed it off of the 3.20 MHz RF carrier frequency many of the 16 cancer patients could have been affected negatively. Dr. Stafford followed these 16 people over many years and in some cases things looked good at first, but the people eventually died from their cancer anyway. One thing that needs to be pointed out is we do not know if Dr. Stafford treated many of his patients over a long enough time period as Dr. Couche and the other doctors did their patients.

In the 1934 clinic 16 patients who had cancer and tuberculosis were treated and considered clinically cured. This is quite a contrast; 100% success in 1934 using Dr. Rife's high RF frequency method. And a very limited success rate on cancer for the low square wave audio frequency harmonics method. Only when Dr. Stafford accidentally used an RF carrier frequency close to the BX cancer virus frequency did the AZ-58 seem to get good results. Dr. Stafford used the AZ-58 instrument for a little over five years and sent his report to John Marsh. I am sure John Crane received it also. The big question that needs to be asked is why did John Crane and John Marsh continue to tell people these low audio frequencies were the frequencies which Dr. Rife used in the 1934 clinic when the medical proof showed they didn't work as well as the high RF frequencies? This again clearly shows they did not understand the sideband method. We have to ask the question, why do people today continue to say these frequencies cure cancer even after they have seen the same results? Could it be because having had a few good results they ignored the evidence and fool themselves? By the time all the evidence was available, John Marsh and John Crane were in jail on three or four different legal counts, one of which was for treating a woman without a medical license.

Dr. Rife did not want to have anything to do with all the legal trouble they were in. He was able to avoid it because he never made any claims and he would never treat anyone. The legal problems shut down Life Labs. Had this not happened I wonder if Dr. Rife would have ignored this evidence? I do not believe he would have. He would have realized that the changes they made to the instrument,

which depended solely on square wave audio frequency harmonics, compromised its effectiveness. I think Dr. Rife would have eventually realized that they didn't fully understand how the Beam Ray Rife Machine worked and he would have gone back to the higher audio frequencies and put the RF carrier frequency back at 3.30 MHz. We will never know what he would have done because I do not think Dr. Rife ever read Dr. Stafford's report. This is because John Marsh received the report after he and John Crane were released from jail.

The troubling thing is this because so few really understand Dr. Rife's early instruments and how Philip Hoyland's Beam Ray Clinical Rife Machine worked almost all frequency generators have been built using this limited square wave audio frequency harmonic method. The people who purchase these low square wave audio frequency instruments have been led to believe it is the same type of instrument used in the 1934 clinic. All because we didn't know the truth. Are people today just fooling themselves also? Are we trying to get these same square wave audio frequency harmonic type instruments and the frequencies they use to do what Dr. Stafford could not get them to do? Cure cancer? We know there have been incredibly good results on many other conditions using audio frequencies which show this type of instrument and method is of great worth but the truth is sometimes hard to accept.

As we have already read, Dr. Stafford came to suspect that the audio frequencies were not true M.O.R.s. Another letter that was written by Dr. Stafford to Dr. Edward Jeppson in Salt Lake City also confirms his concerns. He wrote this letter to Dr. Jeppson because he was having the same type of results that he was having. Here is his statement from his letter:

**DR. STAFFORD:** *"Please excuse my format in the following letter for I intend to ramble a bit and forget strict grammatical dictum. I am writing you at this time partially because John Marsh informs me in a recent letter that you may be somewhat disheartened or at least worried about your role in the experimentations with the Rife Machine. Believe me, Dr. Edward I know how you feel for I too have been through this same feeling with this matter. I have observed clinical results after treatments with this gadget which I can scarcely believe myself. Yet, despite these good results, I have been confused by some rather simple failures such as a recent experiment which I conducted at Good Samaritan Hospital where we used the machine to treat some cultures of Staph Aureus and Strept. Fecalis. In this work, we failed to inhibit growth at all or influence the cultures with the Rife Rx. I sent the results to John Marsh and asked for clarification and to be very frank I am not satisfied with John's excuse of the failure as described by Dr. Rife. I am afraid I'm not a very good apostle for I'm getting some ideas myself on how this thing may work. I really wonder if this ultrasonic kills bacteria and virus at all or does it work like other forms of ultrasonic and merely stimulate the tissue in some unusual manner thereby improving the circulation and secondarily enhancing the body's defenses against infection...To summarize some of this rambling: I feel that the Rife Ultrasonic Therapy has a very definitely beneficial effect on the human (and canine) body...I furthermore feel that we, as doctors of medicine, using this machine must remain constantly alert to the condition of our patient and vary the Rx as indicated."* ([Letter from Dr. Stafford to Dr. Edward Jeppson dated, April 1, 1958](#)).

Clearly, Dr. Stafford was questioning whether the audio frequencies were correct. Little did he know they were not the same frequencies used with the Rife Ray #3 or the Ray #4 instrument? The AZ-58 could have output the higher harmonic sideband frequencies that Philip Hoyland used in his Beam Ray Clinical instrument if they had only understood how it really worked. Whatever was told to Dr. Stafford by Dr. Rife through John Marsh it did not satisfy Dr. Stafford's concerns. Dr. Rife, John Crane and John Marsh probably felt that Dr. Stafford had just made some errors in his work. The one thing that Dr. Stafford did inadvertently find out was the AZ-58 using the square wave audio frequency harmonic method did not kill organisms in the laboratory at the hospital. In the 1950's Dr. Rife no longer had a laboratory for testing any microorganisms. There is no evidence they ever tested just the square wave audio frequencies with Dr. Rife's microscopes. So they did the only thing they could. They let the doctors use the AZ-58 and tell them how well it worked. We must keep in mind that the instrument Dr. Rife



gave to John Marsh and John Crane was an original Beam Ray Clinical instrument which used the harmonic sideband method developed by Philip Hoyland. It used the correct higher audio frequencies and the correct 3.30 MHz RF carrier frequency. This instrument apparently worked because John Marsh said it cured his wife of cancer. Again the fact is the AZ-58 Beam Ray Clinical instrument using square wave audio frequency harmonics never worked as well as Philip Hoyland's sideband method. It also didn't work as well as the Rife Ray #3 or Rife Ray #4.

The square wave harmonic method used in the AZ-58 produced very good results on many conditions but not the results hoped for on cancer. But still, even with the changes, the AZ-58 worked very well on many different conditions. These square wave audio frequencies are what people have been using for the past 50 years believing they were Dr. Rife's true M.O.R.s. All this time not knowing they were not Dr. Rife's original frequencies which he used in his earlier instruments built in the 1920s and 1930s. It wasn't until the papers from the 1939 Beam Rays Trial, John Marsh Papers, Kennedy Company equipment spectrum analysis and Philip Hoyland Beam Ray Clinical Rife Machine spectrum analysis came to light did we have the ability to finally figure out where all these frequencies came from. This information finally reveals [which frequencies were the correct M.O.R.s](#). Notwithstanding the various setbacks, Dr. Stafford was still amazed at the results he achieved with the AZ-58.

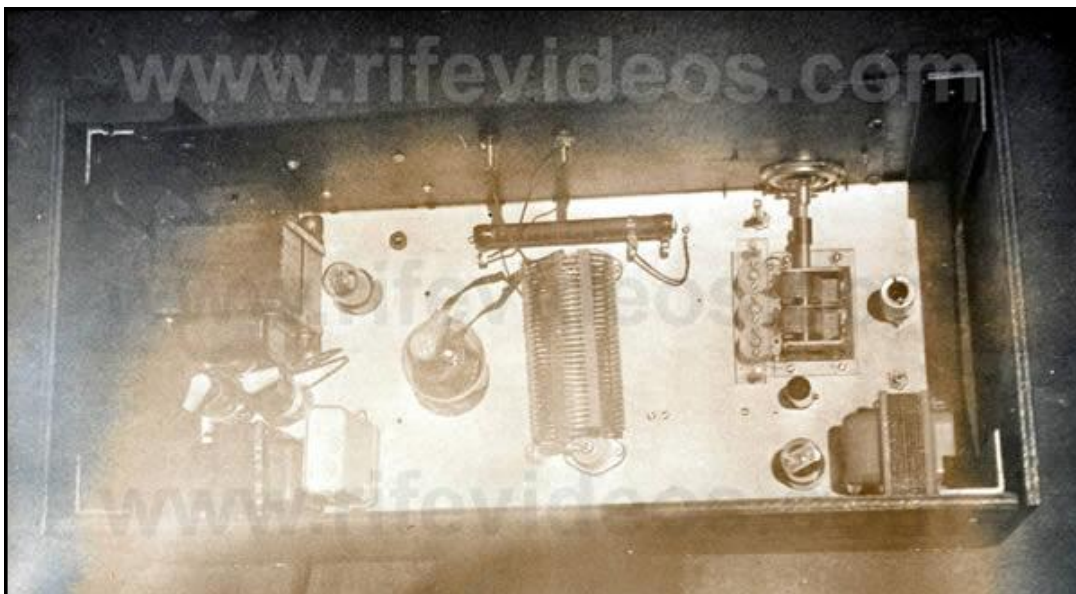
Since we were able to obtain access to John Marsh's papers we were also able to discover that in 1976 John Marsh had some of these low square wave audio frequencies tested on microorganisms by a laboratory using his 1970's model of the AZ-58 Beam Ray Clinical ray tube instrument. Keep in mind that this instrument was miscalibrated like all the 1950' AZ-58 Beam Ray Clinical instruments. It was also only working on square wave harmonics. He paid for these tests and they were carried out between May 1976 and March 1977. The University that did the tests specifically stated that, whatever the outcome of the tests, John Marsh could not use their name in any way to endorse his equipment. These tests were similar to the tests Dr. Stafford conducted at Good Samaritan Hospital. Dr. Stafford's tests showed that these low square wave audio frequencies, which did not produce the correct sideband M.O.R. frequencies, would not devitalize any organisms. John Marsh's tests which he had done at this laboratory also showed that the low audio frequencies working on square wave harmonics will not devitalize any organisms. Both Dr. Stafford's and John Marsh's tests convincingly show the low square wave audio frequencies are not true M.O.R.s. Unless these instruments use the higher audio frequencies with a 3.30 MHz RF carrier frequency they will not devitalize anything.

No one that reads this information should in any way believe that this means that Dr. Rife's method of coordinative resonance is without merit. What these laboratory tests showed is that it is absolutely necessary that the instrument work on the same principles and frequencies as the original instruments that produce the true M.O.R. frequencies use in the Rife Ray #3, Rife Ray #4 and the Beam Ray Clinical instrument. These 1950's AZ-58 Beam Ray Clinical instruments were not calibrated correctly and they used the wrong audio frequencies. This miscalibration made it so the instruments did not work on the original sideband principles which produced Dr. Rife's frequencies. Because they were not calibrated correctly it rendered the instruments incapable of devitalizing any microorganism using just low square wave harmonics audio frequencies.

Even after these tests proved that the low square wave audio frequencies would not devitalize any microorganisms John Marsh continued to hold on to the false notion that these low square wave audio frequencies would devitalize microorganisms. He never would consider that something was wrong with the instruments. Today we understand that a simple correction would have solved all the problems. To read the document about this laboratory test that conclusively proves that the audio frequencies are not M.O.R.s click on this link. ([John Marsh's tests performed by: Brigham Young University Microbiology Department](#)).

We covered this information in a previous chapter but it should be reviewed again here. Some people have wondered if the low audio frequencies (120 Hertz to 2128 Hertz) used in the 1953 AZ-58 are actually the original audio frequencies used in the 1938-1939 Beam Ray machine rather than the high audio frequencies (1200 Hertz to 21275 Hertz) used in Aubrey Scoon's Beam Ray replica instrument. This is a good question and it can easily be answered with certainty. The answer is in the math which produces the correct sidebands for each organism. Only the high audio frequencies (1200, 2400, 6600, 6900, 7660, 7270, 7870, 8300, 8450, 8020, 16000, 17220, 18620, 20080, 21275) will produce the correct sideband frequencies that will produce the higher harmonic frequencies from Dr. Rife's original frequencies. Only six of the low audio frequencies (120, 660, 727, 1862, 2008, 2127-2128 or 2127.5 Hertz as given by John Crane) used in the 1953 AZ-58 when multiplied by a factor of 10 times give the exact same high frequency used in Aubrey Scoon's instrument. But the other seven (712, 784, 776, 800, 803, 880 and 1552 Hertz) when multiplied by a factor of 10 times will not give the correct high audio frequency. These facts reveal which frequency list came first. Since we know that Philip Hoyland designed this Beam Ray Clinical machine and hid the method of using sideband frequencies to produce higher harmonics of Dr. Rife's M.O.R. frequencies then only the list (Aubrey Scoon's higher audio frequency list) that will produce Dr. Rife's higher harmonic frequencies could be the original list.

From the Beam Ray Trial, we learned that no one but Philip Hoyland understood how the instrument worked. Not even Dr. Rife, Verne Thompson, John Crane or John Marsh understood that the RF carrier frequency had to be matched to the audio frequencies in order to produce the sideband frequencies that would hit the higher harmonic frequencies of Dr. Rife's original M.O.R. frequencies. John Crane and John Marsh said many times the RF carrier frequency did not matter. In fact, they eventually quit using the RF carrier frequency when they built their 1950's contact pad style instrument. This clearly proves that they did not understand that the original Rife Ray #5 or Beam Ray Clinical instrument worked on harmonic sidebands. Had they understood this simple fact they never would have changed the RF carrier frequency or built their contact pad style instrument without using an RF carrier frequency. They also would not have lowered or changed any of the audio frequencies if they understood the sideband method used by Philip Hoyland. Both audio frequency lists would be identical except that one list would be 10 times higher than the other list. Only someone who did not understand how the audio frequencies really worked would have lowered them and then changed them. Only the list which came first would have all the correct frequencies. This information proves that the high audio frequency list came first. The low audio frequency list used in the 1953 AZ-58 would have come later in the 1950s because it is the list when multiplied by 10 times, will only produce some of the correct sideband frequencies. Only someone such as Philip Hoyland could have made the high audio frequency list since the high audio frequencies are the only frequencies that will produce Dr. Rife's higher harmonic M.O.R. frequencies. As we said, the answer to this question is in the math.



Below is a chart with a list of the “Original 1950s AZ-58 Frequencies” used by Dr. Stafford. The column to the right of the "Original 1950's AZ-58 Frequencies" is based on a 4.68 MHz RF carrier and is labeled “4.68 Correct Sideband Frequencies”. They would be the correct sideband frequencies to make the AZ-58 instrument work like the original Beam Ray Clinical instrument, but, the problem is the large “Number of Sideband Harmonics”. You will notice that almost all of the low audio frequencies exceed more than 40 sideband spacing steps to hit the high-frequency M.O.R.

<b>Original 1950's AZ-58 Frequencies Used By Dr. Robert P. Stafford M.D.</b>							
<b>Microorganism</b>	<b>Rife Ray #4 Frequencies</b>	<b>Higher Harmonic Frequencies</b>	<b>*Carrier Difference Frequency</b>	<b>1/10 Of A Meter Freq.</b>	<b>Number of Sideband Harmonics</b>	<b>Original 1950s AZ-58 Frequencies</b>	<b>4.68 Correct Sideband Frequencies</b>
Actinomycosis or Streptothrix	192,000 Hz	4,608,000 or 24th	72,000 Hz	12 Hz	92	784 Hz	782 Hz
Anthrax	139,200 Hz	4,732,800 or 34th	52,800 Hz	6 Hz	85		621 Hz
B or E Coli Rod	417,000 Hz	4,587,000 or 11th	93,000 Hz	58 Hz	116	800 Hz	802 Hz
B or E Coli Virus	770,000 Hz	4,620,000 or 6th	60,000 Hz	198 Hz	38	1552 Hz	1538 Hz
BX Virus Carcinoma	1,604,000 Hz	4,812,000 or 3rd	132,000 Hz	858 Hz	32	2128 Hz	2129 Hz
BY Sarcoma	1,530,000 Hz	4,590,000 or 3rd	90,000 Hz	780 Hz	45	2008 Hz	2000 Hz
Gonorrhea	233,000 Hz	4,660,000 or 20th	20,000 Hz	18 Hz	28	712 Hz	714 Hz
Pneumonia or Spinal Meningitis	427,000 Hz	4,697,000 or 11th	17,000 Hz	61 Hz	17	776 Hz	1000 Hz
Staphylococcus Pyogenes Aureus	478,000 Hz	4,780,000 or 10th	100,000 Hz	76 Hz	137	727 Hz	730 Hz
Streptococcus Pyogenes	720,000 Hz	4,320,000 or 6th	360,000 Hz	173 Hz	409	880 Hz	880 Hz
Syphilis	789,000 Hz	4,734,000 or 6th	54,000 Hz	207 Hz	82	660Hz	658 Hz
Tetanus	234,000 Hz	4,680,000 or 20th	0 Hz	18 Hz		120 Hz	20 Hz
Tuberculosis Rod	369,000 Hz	4,797,000 or 13th	117,000 Hz	45 Hz	146	803 Hz	801 Hz
Tuberculosis Virus	769,000 Hz	4,614,000 or 6th	66,000 Hz	197 Hz	44	1552 Hz	1500 Hz
Typhoid Rod	760,000 Hz	4,560,000 or 6th	120,000 Hz	192 Hz	168	712 Hz	714 Hz
Typhoid Virus	1,445,000 Hz	4,335,000 or 3rd	345,000 Hz	694 Hz	185	1862 Hz	1865 Hz

The large “Number of Sideband Harmonics” means that the power level of the correct sideband that hit the higher harmonic M.O.R. would be so weak that it would never work. If the “Number of Sideband Harmonics” go over about 40 sideband steps the power level on a spectrum analyzer shows that they become too weak to work.

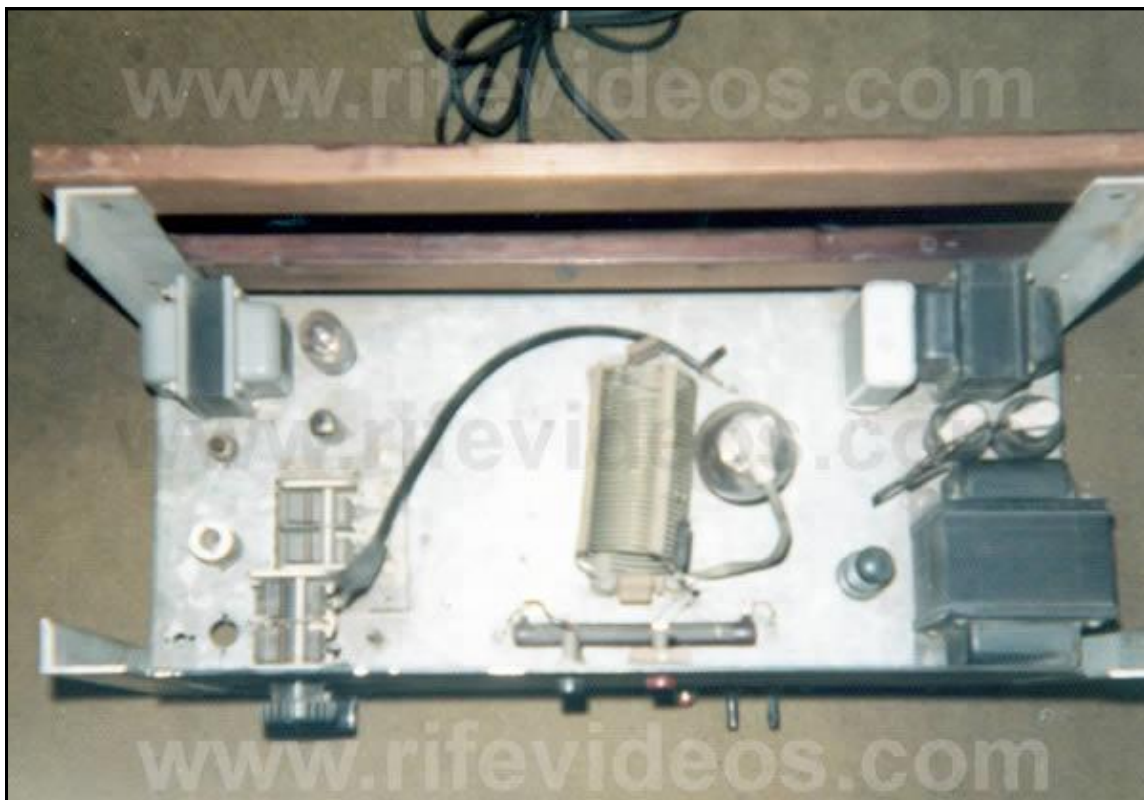
You will notice how closely these two sets of low audio frequencies correspond to each other. The problem is when Dr. Rife, John Crane, and John Marsh lowered the audio frequencies they compromised the AZ-58. The BX audio frequency that Dr. Stafford used was 2128 Hertz and the RF carrier frequency was about 3.20 MHz. The sideband spacing to the “Higher Harmonic Frequency” M.O.R. took only a few sidebands that had enough power to work. This appears to be the reason why the two women and a few others that he treated had such amazing results. The problem is most of the organisms far exceed the 40 sideband harmonics when using these low audio frequencies. This will happen even if you use a 3.20 MHz or 4.68 MHz RF carrier frequency. As mentioned before the higher the audio frequency used the more power there is in the sidebands. For this reason in the next chart, at the top of the next page, we have put a list of the optimum AZ-58 audio frequencies to be used with a 4.68 MHz RF carrier frequency and a 40,000 Hertz audio frequency oscillator. This would make the instrument work like the original Beam Ray Clinical instrument.



**1950's Beam Ray Clinical Instrument Optimum Sideband  
Square Wave Audio Frequencies Based On A 4.68 MHz Carrier**

Anthrax	26,400 Hz	Streptococcus	32,727 Hz
B or E Coli Rod	31,000 Hz	Streptothrix	36,000 Hz
B or E Coli Virus	30,000 Hz	Syphilis or Treponema	18,000 Hz
BX Virus Carcinoma	33,000 Hz	Tetanus	20 Hz
BY Sarcoma	30,000 Hz	Tuberculosis Rod	39,000 Hz
Gonorrhea	20,000 Hz	Tuberculosis Virus	33,000 Hz
Pneumonia or Spinal Meningitis	17,000 Hz	Typhoid Rod	40,000 Hz
Staphylococcus	25,000 Hz	Typhoid Virus	38,333 Hz

Below and on the next page are three photos of the original AZ-58. The first photo is of the inside of the case showing the variable capacitor (bottom left corner with the black knob and the black wire leading to it) which could change the RF carrier frequency. The second photo is a view of the underside of the chassis. From the 1930s to the 1950's the instrument had only a few changes made in the electronic parts. The third photo is a side view of the first AZ-58 built in 1953. If you take a close look at this photo you will see that it did not have the variable capacitor when it was first built. The variable capacitor was added in 1956 and was used for tuning the brightness or resonance of the ray tube. This was done because they didn't believe the carrier frequency made any difference. It was not added for the purpose of changing the RF carrier frequency, this was just a side benefit. Doctor Stafford used this variable capacitor to set the carrier frequency to about 3,200,000 Hertz for some of his tests. This is the reason we believe he had such good success with [the two women patients who had cancer](#). The BX cancer frequency was 3,214,900 Hertz ( $1,607,450 \times 2 = 3,214,900$  Hertz) and even using the low audio frequencies this would have worked very well because he would have been hitting the BX frequency with powerful harmonic sideband frequencies.





The photos, shown on page 189, are of the AZ-58 we built back in 2000. It used to have the vacuum tube audio oscillator built into it but it never worked properly. So it was removed and replaced with Aubrey Scoon's audio amplifier.

On page 190 is a schematic of the 1950's AZ-58 instrument. The 866 vacuum tubes have been replaced with solid state rectifiers. Also the old vacuum tube audio oscillator has been removed. It is easier and more accurate to use Aubrey Scoon's booster amplifier and a modern function generator to produce the audio frequencies that were used in this instrument. The layout of the electronic parts of this instrument is very important because of the inherent interference problems that come with RF oscillators. Again anyone who would like to build this instrument should have a good understanding of old tube technology. Some parts of this circuit use up to 2000 volts DC with substantial current and can easily kill anyone who is not familiar with this kind of current or voltage. We take no responsibility for anyone who builds this instrument. We recommend that you have professional help.

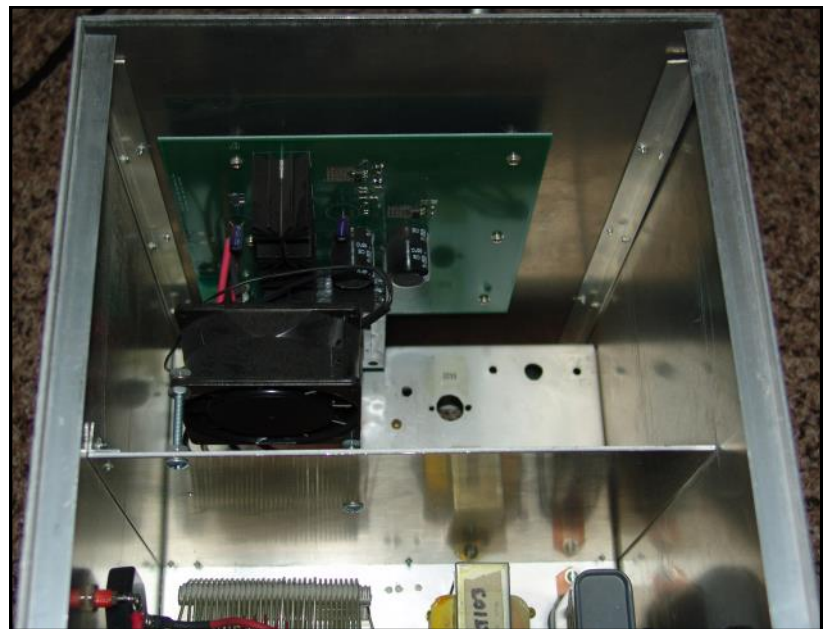
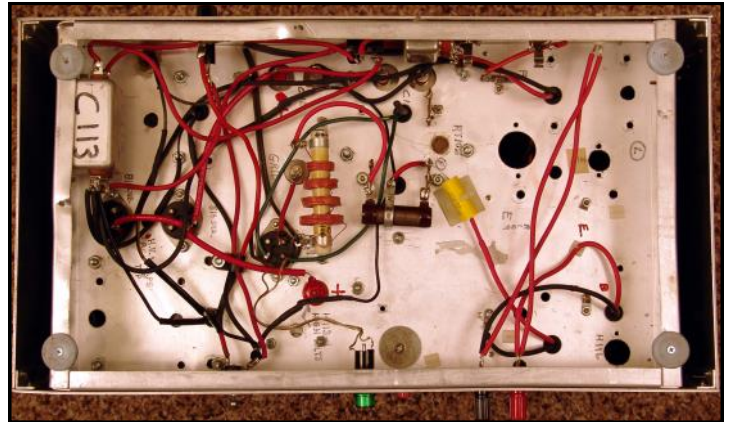
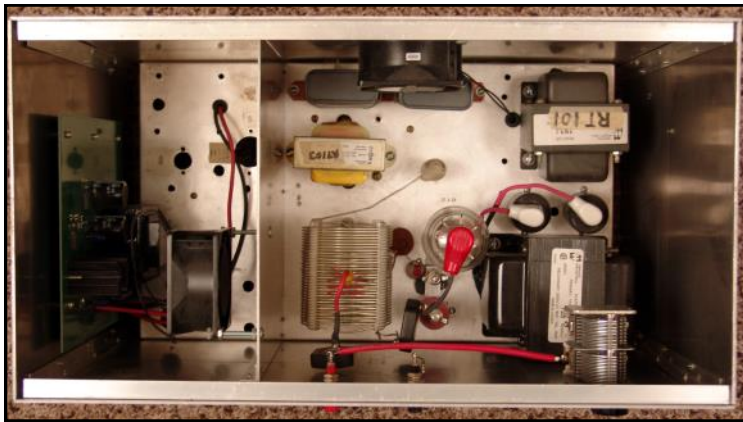
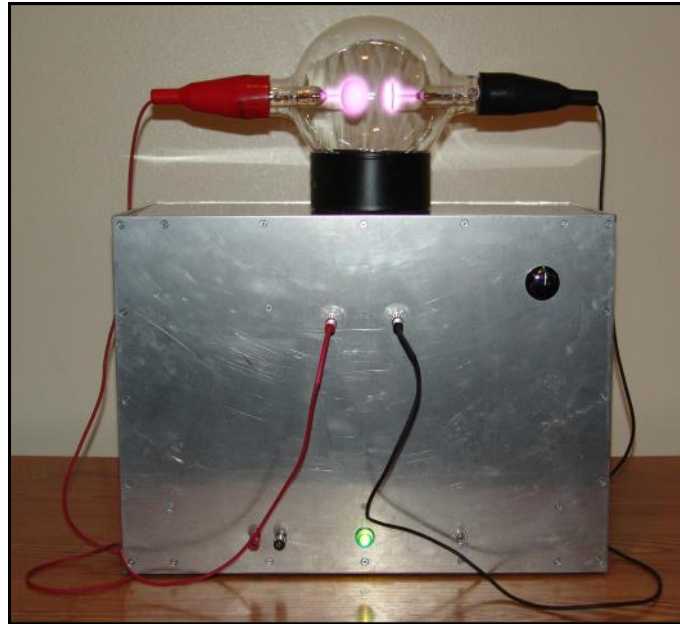
**CHAPTER SUMMARY:** To sum things up only a few changes were made to the original Beam Ray Clinical instrument design which produced the 1953 AZ-58 Beam Ray Clinical replica. Dr. Rife and Verne Thompson kept the original Hartley oscillator but changed the fixed RF carrier frequency from 3.80 MHz to 4.68 MHz as per the new FCC license. The RF carrier frequency section did not significantly change with the use of the 812a vacuum tube instead of the 809 vacuum tube. They kept the variable audio oscillator which produced the low audio frequencies but lowered its range of frequencies using only three bands with a top audio frequency range of about 6000 Hertz. They then lowered Philip Hoyland's original sideband audio frequencies by a factor of about 10 times and used these lower audio frequencies in the AZ-58. Then they changed the audio frequency waveform from sine wave to square wave and depended on the harmonics produced by the square wave waveform instead of the sidebands. It is interesting that Philip Hoyland found that a modulated sine wave waveform when put through his M.O.P.A. circuit was sufficient to devitalize organisms because it creates a wave form that looks almost like a square wave waveform. It appears that a damped wave is not really necessary. When you compare the original Beam Rays Clinical instrument and Aubrey Scoon's 1950's Beam Ray Clinical instrument to the 1950's AZ-58 Beam Ray Clinical replica they are almost identical except for the audio frequency bands. When we built both of these instruments, Aubrey Scoon's and the AZ-58, and compared them we found the AZ-58 replica appears to be the better design and easier to build.

Even with the changes Dr. Stafford had very good results which greatly impressed him. Today because of the changes that were made during the 1950's most people believe that the lowered audio frequencies that were used in the AZ-58 are Dr. Rife's original M.O.R. frequencies, but they are not. Dr. Rife's original M.O.R. frequencies were the frequencies used in the Rife Ray #3 and Rife Ray #4. The Rife Ray #5 or Beam Ray Clinical instrument also worked on higher harmonics of Dr. Rife's frequencies. An instrument that could output both square wave harmonics and Philip Hoyland's harmonic sidebands would take advantage of both of these methods.

In chapter 13, we will discuss the difference between using square wave harmonics and sideband harmonics.



# Photos of the rebuilt AZ-58 Beam Ray Clinical instrument







## Chapter #13

### Rife Machine Harmonic Audio Frequency Misunderstanding



There is a belief that the audio frequencies that were used in the original Rife Ray #5 or Beam Ray Clinical Rife Machine and its 1940's and 1953 AZ-58 replica Rife Machines are harmonic M.O.R. frequencies derived by dividing Dr. Rife's original high RF frequencies down in octave steps until you reach the audio range of frequencies. For this to be true then all of the audio frequencies would have to be true harmonics of the higher RF frequencies. But this is not the case.

All the documents we have quoted and the understanding we now have, prove as a myth, the long believed concept that the low audio frequencies used in the 1950s were created by John Crane and John Marsh by dividing Dr. Rife's high-frequency M.O.R.s down by harmonic steps until they reached the audio range of frequencies. If we take the correct frequency for the BX of 1,607,450 Hertz read by Philip Hoyland and divide it down by harmonics we do not get 2008 Hertz or 2128 Hertz. In fact, we do not get Philip Hoyland's higher audio frequencies of 20080 Hertz or 21275 Hertz either. This clearly proves John Crane and John Marsh did not create the audio frequencies by just dividing down Dr. Rife's higher RF M.O.R. frequencies. The fact is we know that the origin of these audio frequencies came from the sideband harmonic method used by Philip Hoyland in the original Beam Ray Clinical instrument.

The documented information we have shown that Dr. Rife's true M.O.R.s that would resonate organisms were the higher RF frequencies (139,200 Hertz to 1,607,450 Hertz) used in the Rife Ray #3 which consisted of the Kennedy Models 110, 281. These same frequencies were used in the Rife Ray #4 Rife Machine and the higher harmonic frequencies of these frequencies were used in the Rife Ray #5 or Beam Ray Clinical Rife Machine. All of Dr. Rife's Machines worked on RF frequencies not audio



frequencies. From the spectrum analysis of Philip Hoyland's Beam Ray Rife Machine we know that it used audio frequencies for one purpose only, to create the method of sideband harmonic spacing to hit the higher harmonic frequencies which were harmonics Dr. Rife's true RF M.O.R.s. Henry Siner reported Philip Hoyland's design killed the organisms under microscope observation. This same instrument was tested by Dr. Rife in 1940 when Verne Thompson repaired it. Add to this the list of doctors who used the instruments and said they had many diseases cured. This shows that Philip Hoyland's harmonic method works beyond question.

Dr. Robert P. Stafford was not able to kill any organisms in laboratory tests using just the square wave audio frequency harmonics. He did his tests under microscope observation. Today, like Dr. Stafford many have tried to kill the organisms which these audio frequencies correspond to, with no success. John Marsh had laboratory tests done in 1976-1977 which also confirmed Dr. Stafford's tests.

If these audio frequencies, as some have claimed, were really harmonic frequencies derived from the higher RF M.O.R. frequencies then one would think that they should be able to kill the microorganism they correspond to. If a true audio frequency harmonic of Dr. Rife's RF M.O.R. will not devitalize an organism under microscope observation, can the harmonic association be valid? No rational person would believe this. Yet today this is exactly what most people believe because they do not have all of the facts.

When Dr. Rife started looking for frequencies to devitalize microorganisms he worked his way up from the lower frequency ranges to the higher frequency ranges until he found a frequency which would devitalize an organism he was working on. His Rife Ray #3 had the ability to start at about 12,000 Hertz which is in the upper audio frequency range. So Dr. Rife would have naturally started at 12,000 Hertz and moved up in the frequency range in his testing until he found the frequency that would devitalize the organism. Since the Rife Ray #4 documents show that the lowest frequency for any of the organisms was 139,200 Hertz we can conclude that he did not find any frequencies in the audio range or less than 139,000 Hertz that would devitalize any of these organisms listed on the Rife Ray #4 documents. Now this method of starting at the lowest frequency and moving up into the higher frequency ranges would be a logical method of finding the M.O.R. of an organism. What this also logically tells us is that no frequency lower than 139,000 Hertz could ever be a frequency that would devitalize any of these organisms. What this also reveals to us is that Dr. Rife had to get to a high enough frequency range before a resonant effect would devitalize an organism. What is the point that we are trying to make with this simple logic. Philip Hoyland found that higher harmonics of Dr. Rife's original M.O.R. frequencies would devitalize those organisms. But what Dr. Rife found was that there were no frequencies lower than the frequencies he found that would devitalize the organisms found in the Rife Ray #4 documents. We must keep in mind that the Rife Ray #4 did not have any variable audio oscillator. Its frequency range started at 87,000 Hertz. From this we can conclude that Dr. Rife found that the audio range up to about 87,000 Hertz was not needed because you cannot truly resonate any organism with frequencies below 87,000 Hertz using his method.

With this logical understanding, you would not divide down in octave or harmonic steps any of the Rife Ray #4 resonant frequencies and expect these lower frequencies to devitalize those organisms using the same method Dr. Rife used. But this is what people claim can be done. If Dr. Rife could not find any frequency lower than 139,000 Hertz to devitalize the Rife Ray #4 organisms then this concept that people are claiming is a questionable concept depending on the number of harmonic or octave steps used. It is a known fact that square waves will create higher harmonic frequencies. Some claim infinite harmonics but this could only be true if there was infinite power behind those harmonics. So power determines the number of harmonics. In most situations, the harmonics from a square wave are only readable, with sufficient power, to about 9 harmonics up from the original frequency used. Understanding this you would not take any of Dr. Rife's frequencies and divide them down in either harmonic steps or octave steps more than about 9 times and expect an audio frequency with a square wave

waveform to resonate those organisms. Yet this is what people are claiming can be done using audio frequencies and square wave harmonics. They actually promote the idea that you can go down hundreds of harmonic steps with Dr. Rife's frequencies and get those frequencies to resonate with these organisms with low audio frequencies. It is this false concept that John Crane and John Marsh promoted. This false concept has caused all of the confusion we have today. This is why so many people claim that Dr. Rife's original M.O.R. frequencies were the low audio frequencies that were used in the AZ-58.

We are not saying that low audio frequencies do not have positive effects, because they do. But they are working on a different concept than coordinative resonance. No one knows exactly how these low audio frequencies work, they just know they are beneficial. Dr. Stafford believed that they somehow stimulated the adrenals which in turn stimulated the immune system. He also believed when the immune system is stimulated the body will be able to overcome many ailments that it otherwise could not overcome. Again we will point out that it is not known how these low square wave audio frequencies work. But what is known is that they do not create a true resonate frequency effect like Dr. Rife's high RF frequencies or the higher harmonic RF frequencies Philip Hoyland used.

The evidence we have given in this report shows that if the RF M.O.R. frequency is lowered by too much it will lose its ability to devitalize an organism even though it is a lower harmonic frequency. Dr. Stafford's and John Marsh's laboratory tests showed this when they treated the organism with the low audio frequency that was supposed to devitalize it. The tests showed that the organism continued to grow even when they transferred it from one culture to another. Can there be any greater scientific proof than this? Even Dr. Rife would not have argued with this method of determining true M.O.R.s, because this is the method he used. This is the greatest proof, along with the fact that almost all the audio frequencies are not true harmonics of the original high RF frequencies. We know many other people who have made the same tests on microorganisms as Dr. Stafford and John Marsh and they told us they obtained the same results he did. John Marsh said on the Rife CD's that they came up with the frequencies using math. The documented information we now have shows that the math they used was to lower Philip Hoyland's original audio frequencies by a factor of 10 times. If every audio frequency was a perfect harmonic match to its higher RF M.O.R. then we could say they were all derived from Dr. Rife's original M.O.R.s, but they are not. So this leaves us with only one conclusion. They lowered Philip Hoyland's higher audio frequencies and wrongly considered those lowered frequencies to be the true M.O.R. frequencies. Another thing we must understand is that even if the audio frequencies were derived from Dr. Rife's original RF M.O.R.s in lower harmonic steps or octave steps and they do not devitalize the organism they are not real M.O.R.s. either.

What the evidence in this report certainly proves is, without really knowing it, Dr. Rife, John Crane and John Marsh discovered that these lower square wave audio frequencies are beneficial. Even though they will not devitalize the organism they correspond to under microscope observation they still seem to help people? The fact is we really don't know why the audio frequencies are beneficial, but for some unknown reason, they are. Though the method of modulating a square wave audio frequency onto a fixed RF carrier did not work as well as Philip Hoyland's sideband method, nevertheless it works very well with many conditions. Even though the audio frequencies are beneficial in many ways, this still does not prove the claim that the 1950's audio frequencies are harmonic M.O.R.s.

What needs to be kept in mind is how the original Beam Ray Clinical instruments worked. We will again point out here that neither the 3.30 or the 3.80 MHz RF carrier frequency nor the audio frequencies will do anything by themselves. But when the 3.30 or the 3.80 MHz RF carrier frequency and the audio frequencies are combined together they will produce many sideband frequencies. And one of these sideband frequencies will line up with the true Rife M.O.R. frequency and devitalize or render harmless the harmful microorganism. If you just use the audio frequencies by themselves you will get nothing. If you use the 3.30 or the 3.80 MHz RF carrier without the audio frequencies you will get nothing.

ing. The audio frequencies used in this style of the instrument must be matched to the RF carrier frequency of 3.30 or 3.80 MHz or they are useless. This is the reason the 1953 AZ-58 Beam Ray Clinical instrument did not work properly.

Below is a chart showing the “High-Frequency M.O.R.s” which were taken from the Rife Ray #3 and used with the Rife Ray #4. These frequencies were recorded in 1935 when Philip Hoyland went to Dr. Rife's laboratory to read them with his master oscillator. They were fine-tuned with more precision in 1936 when Philip Hoyland built the Beam Ray Clinical instrument. This is the reason for the slight discrepancy in Dr. Rife's high frequencies. In 1935 the frequencies were rounded off to the nearest thousandth. In 1936 a more accurate reading was done of these frequencies so that the higher harmonics could be used in the Beam Ray Clinical instrument. These frequencies are the true M.O.R.s. The “Harmonic Higher Audio Frequency” column is the true harmonic of the “High-Frequency M.O.R.s” column. How well these higher frequencies under 60,000 Hertz would work is anyone's guess using the square wave harmonic waveform that was used in the AZ-58 replica instrument. The “Harmonic Higher Audio Steps” column shows how many harmonic steps it takes to hit the fundamental “High-Frequency M.O.R.s” using the “Harmonic Higher Audio Frequency” using a square wave waveform. As can be seen, the higher the frequency the less harmonic steps it takes to hit the fundamental M.O.R. frequency. We did this chart just to show how the concept of square wave harmonics would work. Just keep in mind that any square wave audio frequency only goes up for about 9 harmonics with sufficient power. Many of the “Harmonic Higher Audio Steps” exceed 9 harmonics. With this understanding, a higher frequency should be chosen that would be within 9 harmonics of Dr. Rife’s original high RF M.O.R. frequency.

<b>AZ-58 M.O.R. Audio Frequencies Square Wave Harmonics</b>						
<b>Microorganisms</b>	<b>1950's Low Audio Frequency For AZ-58</b>	<b>True Harmonic Low Audio Frequency For AZ-58</b>	<b>Harmonic Low Audio Steps for AZ-58</b>	<b>Harmonic Higher Audio Frequency</b>	<b>Harmonic Higher Audio Steps</b>	<b>High Frequency M.O.R.s</b>
Actinomycosis (Streptothrix)	784 Hz	750 Hz	256	48,000 Hz	4	192,000 Hz
Anthrax	None	1087.5 Hz	128	34,800 Hz	4	139,200 Hz
B. Coli (Rod form)	800 Hz	814.4531 Hz	512	52,125 Hz	8	417,000 Hz
B. Coli (Filterable virus)	1552 Hz	1503.9063 Hz	512	48,125 Hz	16	770,000 Hz
Bacillus X or BX (Cancer Carcinoma)	2128 Hz	3132.8125 Hz	512	50,125 Hz	32	1,604,000 Hz
Bacillus Y or BY (Cancer Sarcoma)	2008 Hz	2988.28125 Hz	512	47,812.5 Hz	32	1,530,000 Hz
Gonorrhoea	712 Hz	910.15625 Hz	256	29,125 Hz	8	233,000 Hz
Pneumonia or Spinal Meningitis	776 Hz	1667.96875 Hz	256	53,375 Hz	8	427,000 Hz
Staphylococcus Pyogenes Aureus	727 Hz	933.59375 Hz	512	59,750 Hz	8	478,000 Hz
Streptococcus Pyogenes	880 Hz	703.125 Hz	1024	45,000 Hz	16	720,000 Hz
Syphilis	660 Hz	770.5078 Hz	1024	49,312.5 Hz	16	789,000 Hz
Tetanus	120 Hz	914.0625 Hz	256	29,250 Hz	8	234,000 Hz
Tuberculosis (Rod)	803 Hz	720.7031 Hz	512	46,125 Hz	8	369,000 Hz
Tuberculosis (Virus)	1552 Hz	1501.953125 Hz	512	48,062.5 Hz	16	769,000 Hz
Typhoid Fever (Rod)	712 Hz	742.1875 Hz	1024	47,500 Hz	16	760,000 Hz
Typhoid Fever (Virus)	1862 Hz	1411.1326 Hz	1024	45,156.25 Hz	32	1,445,000 Hz

Now if we take a look at the "1950's Low Audio Frequency For AZ-58" column we see the frequencies that were used by the AZ-58 back in the 1950s. These frequencies are still used today. In the “True Harmonic Low Audio Frequency For AZ-58” column we find the true low audio frequency harmonics of the “High-Frequency M.O.R.s.” As you compare these columns you can see that the 1950's



frequency for Actinomycosis or Streptothrix was 784 Hertz but the true harmonic frequency is 750 Hertz. It is easy to see that the AZ-58 was not working on square wave harmonics of the true M.O.R.s. If you look at the "Harmonic Low Audio Steps For AZ-58" column you can see how many harmonic steps it takes to reach the true "High-Frequency M.O.R." These range from 128 harmonic steps to 1024 harmonic steps. Anyone looking at these numbers would wonder if these frequencies could ever work. Logically the higher the frequency the better the chance they will work. Also logically the less you go up in square wave harmonics the greater the chance they will work. When using the square wave method the highest frequency possible should be used.

**CHAPTER SUMMARY:** None of the low audio frequencies used in the AZ-58 were Dr. Rife's original M.O.R. frequencies. Not even the higher audio frequencies used in the Beam Ray Clinical instrument were his original M.O.R. frequencies either. Both the lower and the higher audio frequencies are not true harmonics of Dr. Rife's original M.O.R. frequencies, as some have thought. The frequencies that Dr. Rife discovered were the lowest frequencies which he found that would resonate an organism and devitalize it. Dr. Rife knew that his frequencies were lower harmonics of a true higher frequency. Philip Hoyland used this understanding in the Rife Ray #5 or Beam Ray Clinical instrument. One thing we do know is dividing Dr. Rife's original frequencies down in octave or harmonic steps until you get into the low audio frequency range, has not been proven through laboratory testing, to resonate those organisms or any other organisms. Dr. Stafford and John Marsh had laboratory tests done and found that the 1950's AZ-58 square wave low audio frequencies would not devitalize any organisms they were tested on. The audio frequency range does have many beneficial frequencies but it is not understood how they really work. Dr. Stafford believed they stimulate the adrenal glands thus stimulating the immune system.

The real problem with not understanding which frequencies are Dr. Rife's original M.O.R. frequencies means that people will purchase frequency generating equipment that does not output Dr. Rife's original frequencies. It really is "buyer beware". If a frequency generating piece of equipment cannot output both the low audio frequency range and the high RF range then you may want to reconsider purchasing it. Look for a frequency generator that can output all of Dr. Rife's frequencies. If a company will not tell you what the frequency range of their so called "Rife Machine" is then keep looking until you find a good frequency generator with the correct frequency range. Any frequency generator worth purchasing should have a range from at least 1 Hertz to 5,000,000 Hertz so you can use the full frequency range that Philip Hoyland used with the higher harmonics of Dr. Rife's original M.O.R. frequencies. If a frequency generator can go to 20,000,000 million Hertz, even better, because you can also work with many of the higher harmonics of Dr. Rife's frequencies.

In chapter 14, we will look at the metal disk type contact "Pad" instrument developed by John Crane, and John Marsh in 1957. The metal disks were later changed to metal hand-cylinders.

## Chapter #14

### Life Labs 1950's Pad Instrument without Ray Tube



1. Used round disks that came in contact with the body. Later changed in the 1960's to hand cylinders or footpads.
2. Had no RF carrier frequency.
3. Used the square wave audio frequencies used in the AZ-58.
4. Power output was only about 1/10th to 1/20th of 1-watt of power.

It was about 1957 when John Crane and John Marsh began building instruments without a ray tube. Earlier in this article, Bertrand Comparet was quoted as saying:

**COMPARET:** *“Now, Crane said “Well now look, Rife himself admits that no matter how much tube and ray, and so on, you have, you can’t get any results unless you’ve got the right frequency. Therefore the real clue to the thing is the frequency and not the means by which you deliver it.” (1970’s Bertrand Comparet Interview #33).*

John Crane and John Marsh replaced the ray tube with two aluminum disks (shown in the above photo) which they developed that came in contact with the body. As we pointed out earlier in this report it is interesting to note that Dr. Rife said Abrams’ Oscilloclast would devitalize the BX cancer virus and it was a contact type device. John Crane and John Marsh probably used this contact method because of the success of Abrams’ instrument. From the documented information we have, it was also the high cost of building ray tube instruments that caused them to look at doing things in a different way. In addition to being expensive to build, the ray tube could break very easily. They had many problems with them. It does not appear that Dr. Rife, at least in his early years, ever had a reason to look at doing

things differently. John Crane and John Marsh did. They didn't have the kind of money to spend that Dr. Rife did. They say that "Necessity is the mother of invention!"

In the photo, shown below, we see that they eventually added handles onto the disks so that they were easier to use.



John Crane and John Marsh used a Heathkit function generator to produce the frequencies. These Heathkit function generators had no built-in carrier frequency on which to modulate the audio frequencies. Therefore, the RF carrier frequency was no longer used. The fact that they didn't feel the RF carrier frequency was necessary shows that they totally believed that the audio frequencies were the M.O.R. frequencies. This also shows beyond doubt that they never knew the importance of the RF carrier frequency or had any understanding of the harmonic sideband method used in the original Rife Ray #5 or Beam Ray Clinical Rife Machine. They could have made a pad instrument work like the Beam Ray Clinical Rife Machine if they would have used a harmonic sine wave RF carrier frequency at 3,300,000 Hertz. After the many years that these pad instruments have been used it appears that the removal of the ray tube was not as important as the removal of the RF carrier frequency.

Dr. Rife would have never approved of using an instrument without an RF carrier frequency. He knew that Philip Hoyland's Beam Ray Clinical instrument which used the sideband method somehow needed an RF carrier frequency to make it work properly. Though Dr. Rife didn't fully understand Philip Hoyland's instrument design he clearly understood the importance of the RF carrier frequency. The positive thing about using a Heathkit function generator in this way is they were inexpensive (about \$200) and a lot more people could afford one. Many people can thank John Crane and John Marsh for this innovative method. John Crane and John Marsh proved that the square wave audio frequencies worked the same whether applied through a ray tube or pads if sufficient power is used. Many people think that John Crane and John Marsh built the pad type instrument without Dr. Rife being fully informed about it. But this was not the case. John Crane and John Marsh had talked for some time about building a smaller ray tube instrument but instead of building it they built the pad type instrument. In John Marsh's Trip to Ohio Papers we read this:

**RIFE**: *"That is the only way that it can be handled properly."*



**MARSH:** *"Maybe we can sell small instruments for the purpose of small diseases like colds, flu and stuff like that, which are minor, which the Dr.s prefer not treating those kind anyway, because they are chronic, and there isn't anything they can do with them. People keep coming in and coming in and they take up his time where he could spend it taking care of a bad case, or something or other. Dr. Stafford said that he would prefer that a small instrument would be made...What do you think John? I've been doing a lot of talking not even giving you a chance to get a word in edgewise."*

**CRANE:** *"There is no doubt there is going to be an awful lot of development on this design..."* ([1957 John Marsh trip to Dayton, Ohio #36-38](#)).

From these statements, we learn that Dr. Rife knew that they wanted to build small instruments. Also, we learn that it was John Marsh and John Crane's idea to build the pad instruments, not Dr. Rife's. We know that Dr. Rife was upset with John Crane and John Marsh over the building of these pad instruments because he expressed it to Bertrand Comparet during his 1961 deposition. Comparet said:

**COMPARET:** *"And I asked Rife because I thought Rife would certainly say that the way Crane was working on it then was still using the Rife principle, but he indignantly denied it."*

**HUBBARD:** *"All right, I see. But, getting back, you say that Rife was very indignant, that the machine that Crane was building was really his [Cranes] idea. I suppose he did not compromise on that, did he?"*

**COMPARET:** *"Oh no, he just blew up."* ([1970's Bertrand Comparet interview #32 & 40](#)).

At this time John Crane and John Marsh were working on both the ray tube instrument and the pad type instrument. We know that Dr. Rife considered the ray tube instrument to be his instrument. The ray tube instrument used an RF carrier frequency on which the square wave audio frequencies were modulated. So it is clear that the pad type instrument without an RF carrier frequency is what Dr. Rife was upset about. It is also clear that Dr. Rife fully knew what they were doing but he did not approve of what they were doing. Because they didn't use an RF carrier frequency the pad type instrument would not be working on Dr. Rife's principle of coordinative resonance through high RF sideband frequencies. We know that this was the method Philip Hoyland used in his design. If there is no RF carrier then there would be no sideband frequencies and this would mean that none of Dr. Rife's higher harmonic RF frequencies would have been produced. This also means the pad type instrument only worked on low square wave audio frequency harmonics not high RF frequencies. However, John Marsh and John Crane's innovation with a pad type instrument proved that the ray tube could be removed and frequencies could be applied electrically through the contact method which they used.

This new method made it possible for more people to have access to a less effective form of Dr. Rife's technology. Though it was a less effective method many people over the years have been helped by this method of only using low square wave audio frequencies. Back when John Crane and John Marsh were building these pad instruments they could have built a pad type instrument capable of producing all of Dr. Rife's frequencies. The reason they did not do this is due to the fact that they believed that the low square wave audio frequencies would work as well as Dr. Rife's original high RF frequencies. Time has proven that they were not correct in this belief. Today all of Dr. Rife's original high RF frequencies and the higher harmonics of those frequencies which Philip Hoyland used can be produced by any function generator with the proper frequency range of at least 1 Hertz to about 4,000,000 Hertz.

It appears that one of the reasons why John Crane and John Marsh didn't use an RF carrier frequency is the Heathkit function generator that they used didn't have the capability of using an RF carrier frequency. Audio frequencies will not broadcast; therefore, they are modulated upon the RF carrier frequency so that they will penetrate the body. In laymen's terms, modulation is piggy-backing one or

more low frequencies onto another higher frequency. The frequencies travel together but still keep the components of both waveforms. Almost all of the so-called "Rife Machines" built today do not use an RF carrier frequency even though Dr. Rife's Beam Ray Clinical instrument and the 1953 AZ-58 Machine did. If Dr. Rife could have removed the RF carrier frequency from his instrument and gotten the same results, I believe he would have removed it because it would have made building an instrument a lot easier. He became upset with John Crane and John Marsh for doing this. As it is, Dr. Rife never removed the RF carrier frequency from any of his instruments. It was John Crane and John Marsh who remove it. If a person wants to try and obtain the same type of results that Dr. Rife did, then an RF carrier frequency should be considered and used with any audio frequency instrument.

We realize that there are ray tube instruments today that do not use an RF carrier frequency. These use a high electromagnetic field (EM) which will transfer the energy into the body. We do not doubt that these instruments work very well with low square wave audio frequencies. We have talked with people that are using these instruments and they say that they are getting very good results. But these instruments are still using just the low square wave audio frequencies without an RF carrier frequency. What we are talking about in this report is the way that Dr. Rife used RF frequencies and an RF carrier frequency modulated with an audio frequency to produce the proper sideband method. Some of these EM ray tube instrument builders like to compare EM devices to RF devices. This is like comparing apples and oranges. There is no comparison because if you do not have an RF carrier frequency then you cannot create any sideband frequencies. The EM devices work on a high electromagnetic field, the stronger the better. RF devices work on radio frequencies and the power output is measured in watts. Dr. Rife's instruments were all RF instruments and could resonate an organism when the proper RF frequency was used. EM devices use low audio frequencies because they cannot output RF frequencies. RF versus EM or apples and oranges cannot be compared because they are two totally different principles. EM devices are also limited in their frequency range. Usually, they can only output frequencies to about 20,000 Hertz where Dr. Rife's RF devices were putting out frequencies in the millions of Hertz or cycles per second.

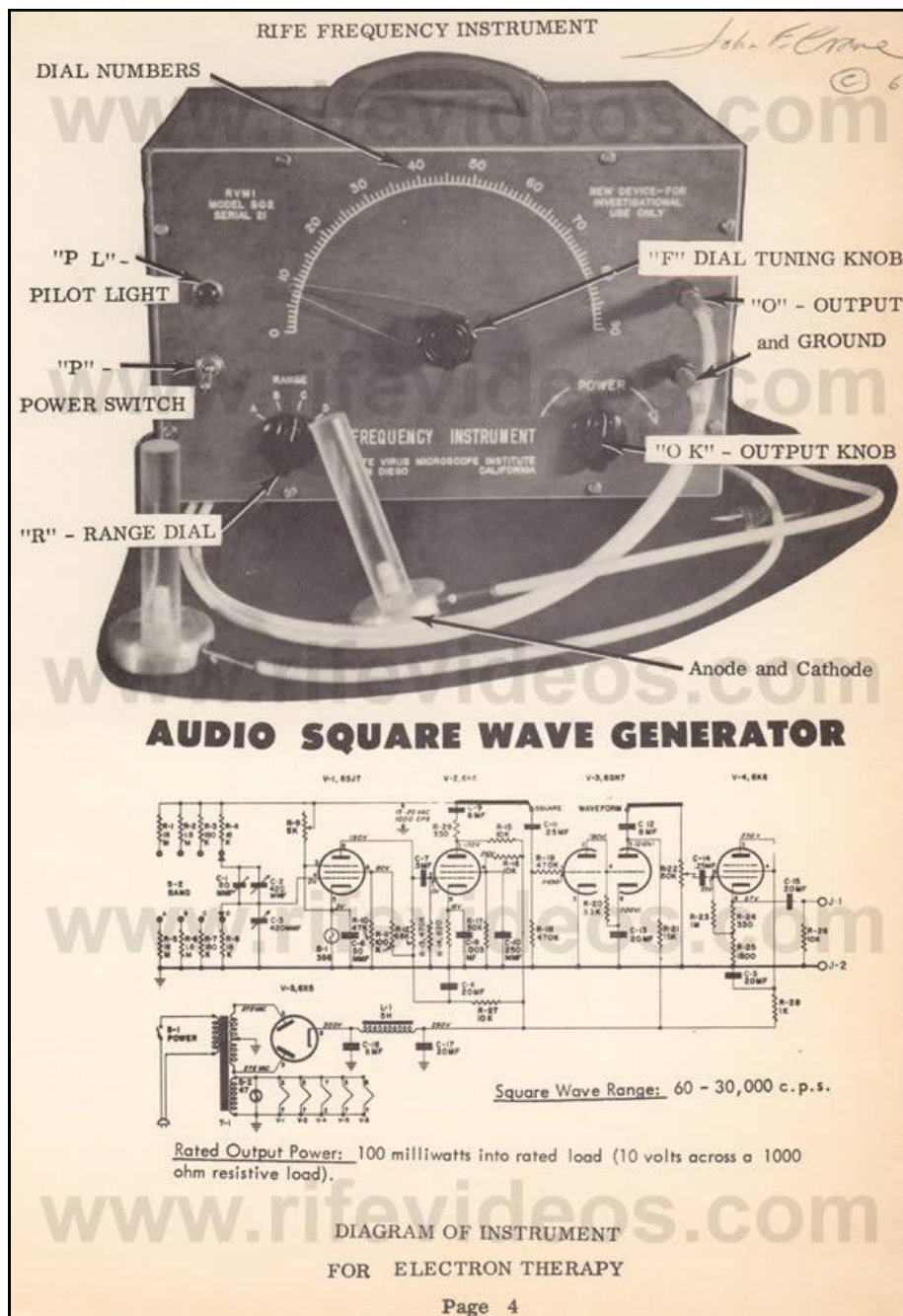
There is some misinformation being put out about pad instruments. Mostly it is done by people who believe that only a ray tube will work in delivering frequencies to the body, whether it is through the RF or the EM method of delivering frequencies. These people promote the false belief that audio frequencies when used in a pad instrument without an RF carrier or without an EM field will only travel along the surface of the skin of the body. They say that the frequencies cannot penetrate the body because of the "Skin Effect." We need to point out that the "Skin Effect" has nothing to do with human tissue or human skin. The "Skin Effect" has to do with the skin or surface of a metal conductor such as a copper wire. If the human body was made of metal then the "Skin Effect" would apply. These people are either totally ignorant or willfully trying to mislead people so that they will only purchase an instrument that uses a ray tube. What we should really believe is what the scientific tests have proven in regards to the "Skin Effect" as it pertains to human or animal tissue.

In scientific studies called "Bioelectric Impedance Analysis," it has been shown that sine wave audio frequencies, without an RF carrier frequency, will enter the body but will only travel in the connective tissues around the cells. These tests have proved beyond doubt that the frequency does go right through the skin contrary to what people have claimed. Also in these scientific studies, it has been shown that the closer you get to 1 Megahertz the greater the penetration of the current through the cell. At 1 Megahertz or one million Hertz, the current of the frequency will go through the cell and fully penetrate the body. These types of tests show why it is very important that an RF carrier frequency should be used. A virus can enter a cell and live there. An RF frequency can enter the cell where it can do the most good. These kinds of scientific studies and their importance were not understood by John Crane and John Marsh in the 1950s and 1960s. These "Bioelectric Impedance scientific tests also prove that what many people have been saying about the "Skin Effect" is absolutely false. In this Rife machine report, we do not ask people to believe what has been said without proof. For this reason, we have in-

cluded one of these scientific reports for you to read. There are other reports on the web that you can read, but we found that this one is the easiest to understand. But even with that said, unless you have some understanding of how electricity works then it may be difficult for someone to understand. Because of this, we added, in blue colored print, a layman's understanding at the end of each section. To read this file go to the following website address.

[www.rifevideos.com/pdf/skin\\_effect\\_and\\_bio\\_electrical\\_impedance\\_analysis.pdf](http://www.rifevideos.com/pdf/skin_effect_and_bio_electrical_impedance_analysis.pdf)

Below is a schematic of John Crane & John Marsh's pad instrument. It was nothing more than an off-the-shelf audio frequency generator with the faceplate changed. There was nothing special about this frequency generator because any common function generator can do the same thing that this one could do. There have been people who have copied this instrument and who charge enormous sums of money for a replica. As much as four or five thousand dollars. They claim that this is a real genuine Rife Machine. Do not be fooled. The same audio frequencies that were used in the 1953 AZ-58 were also used with this instrument. Those frequencies were 120, 660, 712, 727, 776, 784, 800, 803, 880, 1552, 1862, 2008, and 2128.





Below are several photographs of the many pad type frequency generators that John Crane and John Marsh built. The first one was built by John Crane.



These next three photos, shown below and on the next page, are of another one of John Crane's pad instruments built in the 1960s.







The next two photos, shown below, are of the pad instrument built back in 1961 by John Crane and John Marsh. They at that time were calling their organization the "Rife Virus Microscope Institute". This name is on the front of their instrument. The first photo is from back in 1961 and the second photo is a new photo of one of these instruments which has survived.





The next two photos, shown below, are pictures of one of John Marsh's pad instruments which he built in the 1980s. The first photo is from the 1980s and shows the aluminum disks which he was using at that time. The second photo shows this same instrument with another pad instrument that he built.



The next photo, shown below, is a new photo take of an instrument which John Marsh owned and gave to his nurse. It is similar to the instrument shown in the first photo above.



The next two photos, shown below, are two pad type machines that John Marsh made out of a 1950's Heathkit frequency generator. Almost all of the pad type machines that both John Crane and John Marsh built, were really made from off-the-shelf frequency generators without any changes being made to them. Many times they would either replace the faceplate with their own design or they would cover it so that no one would know that they were just using an off-the-shelf frequency generator. On page 202, in the top photo of John Crane's machine, you can see that he covered the original faceplate so no one would know what he was doing. In the next two photos below you can see that John Marsh did the same thing with this one. The first photo was taken by John in the 1980's and the second photo is a new photo of this instrument.



**CHAPTER SUMMARY:** Pad type audio frequency instruments have done a lot of good over the years. But without an RF carrier frequency properly match with the correct audio frequencies Philip Hoyland's sideband method cannot be used with them. These instruments need to have an RF carrier frequency or the ability to output the exact frequency that Dr. Rife used. We know from the documents that Dr. Rife preferred using the exact frequency rather than Philip Hoyland's sideband method, but either method will work and Dr. Rife used both. Dr. Rife's frequency range included both the audio range and the RF range of frequencies from 1 Hertz to about 1,800,000 Hertz (18 million Hertz). Philip Hoyland's design produced higher harmonic frequencies of Dr. Rife's original frequencies in the 2,000,000 and 3,000,000 Hertz range.

The so-called pad "Rife Machines" that are sold today which cannot produce these frequency ranges cannot produce Dr. Rife's results. Make sure that the frequency generator you purchase can produce both the audio and RF frequencies that Dr. Rife used. Also, it should be understood that the pad type instruments are not able to output the power that the ray tube instruments can. Pad style instruments that do not use an RF carrier frequency or the higher RF frequency range generally do not exceed one half of one watt of power. This is because the body cannot take more than about one-fifth of one watt before the electrical current begins to lock up the muscles of the user. When an RF carrier frequency is used then the body does not react to the electricity and this makes it so that higher power levels can be used up to the 15 to about 20-watt range. Dr. Rife's ray tube instruments had power ranges from 50 to 500-watts output. The [Rife Ray #5 or Beam Ray Clinical instrument](#) power output was 75-watts.

In chapter 15, we will look at an AZ-58 type of ray tube instrument built by John Marsh in the 1970's.



## Chapter #15

### John Marsh's 1970's Beam Ray replica Rife Machine



1. Used a ray tube.
2. The Carrier frequency was 4.150 MHz.
3. Modulated sine and square wave audio frequencies onto the sine wave carrier frequency.
4. Power usage was about 460 watts. Output to the ray tube about 50 to 75-watts.

John Marsh had this replica of the Beam Ray Clinical Rife Machine [Model #JLMSQ-1A](#) built back in November 1971 for \$3,800. It was completed by January 1, 1972. He and John Crane were under court order not to associate with each other. Because of this court order, they went their separate ways but communicated often through phone calls and letters. John Crane stayed in California and John Marsh went to Colorado but eventually settled back in SLC, Utah until his death in 1987. All of his Rife Machines and Rife information were given to his nurse before his death. His equipment and documents were obtained from her in 2012. Since we were able to obtain this instrument we have been able to properly date it and take better photos of the complete instrument. Some of this information and new photos are shown below and are now apart of this report.

The photo at the top of the next page shows the two chassis that were connected by wires with their covers taken off. This instrument was a mix of both tube technology and modern solid-state components.

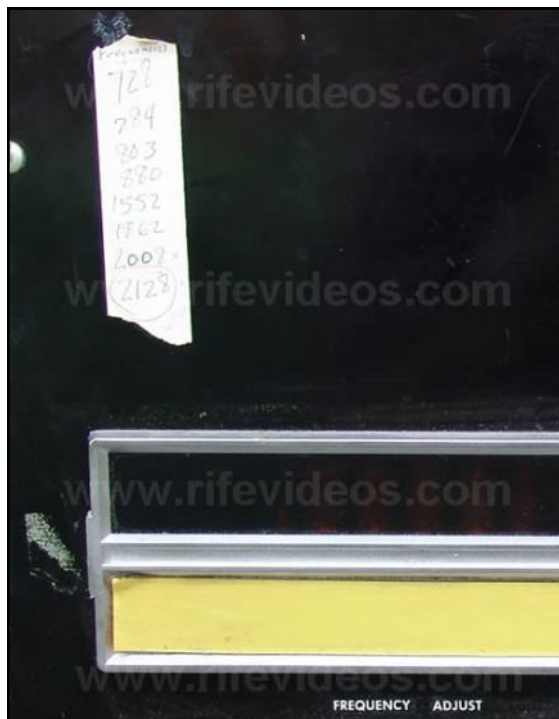


In the next photo, shown below, you can see that the instrument could output both sine and square wave audio frequencies. The frequency range of the audio oscillator went from 20 Hertz to 20,000 Hertz over three bands. John Marsh initially wanted it to have a frequency range from 0 to 100,000 Hertz. It had coarse and fine adjustments for the audio frequencies. Above those knobs, we see the digital readout window of the frequencies. John Marsh put in a modern solid-state audio oscillator with a digital readout. To the right of the digital readout, we see a timer with a range of up to 5 minutes.





To the right of that timer, shown below, in the first photo on the left, we see the power meter which is written on it "Standing wave ratio" and "Percent reflected power". The knob below the meter was for adjusting the standing wave ratio. Below the knob is where the ray tube was connected. John Marsh used the CB antenna style connection instead of the banana jack method used in the original 1953 AZ-58. In the second photo, shown below on the right, you can still see an up-close view of the John Marsh's masking tape with the 1950's frequencies written on it.



The next photo, shown below, is a top view of the chassis with the case removed. You can clearly see that John Marsh used a mix of old tube technology and solid-state electronics.





The next four photos, shown below and on the next page, are close up photos of the top of the chassis. The first photo is the built-in timer. The second photo is the solid-state audio oscillator.



The third photo shows the 811a main power output vacuum tube. The fourth shows the transformer that powers the audio oscillator board.

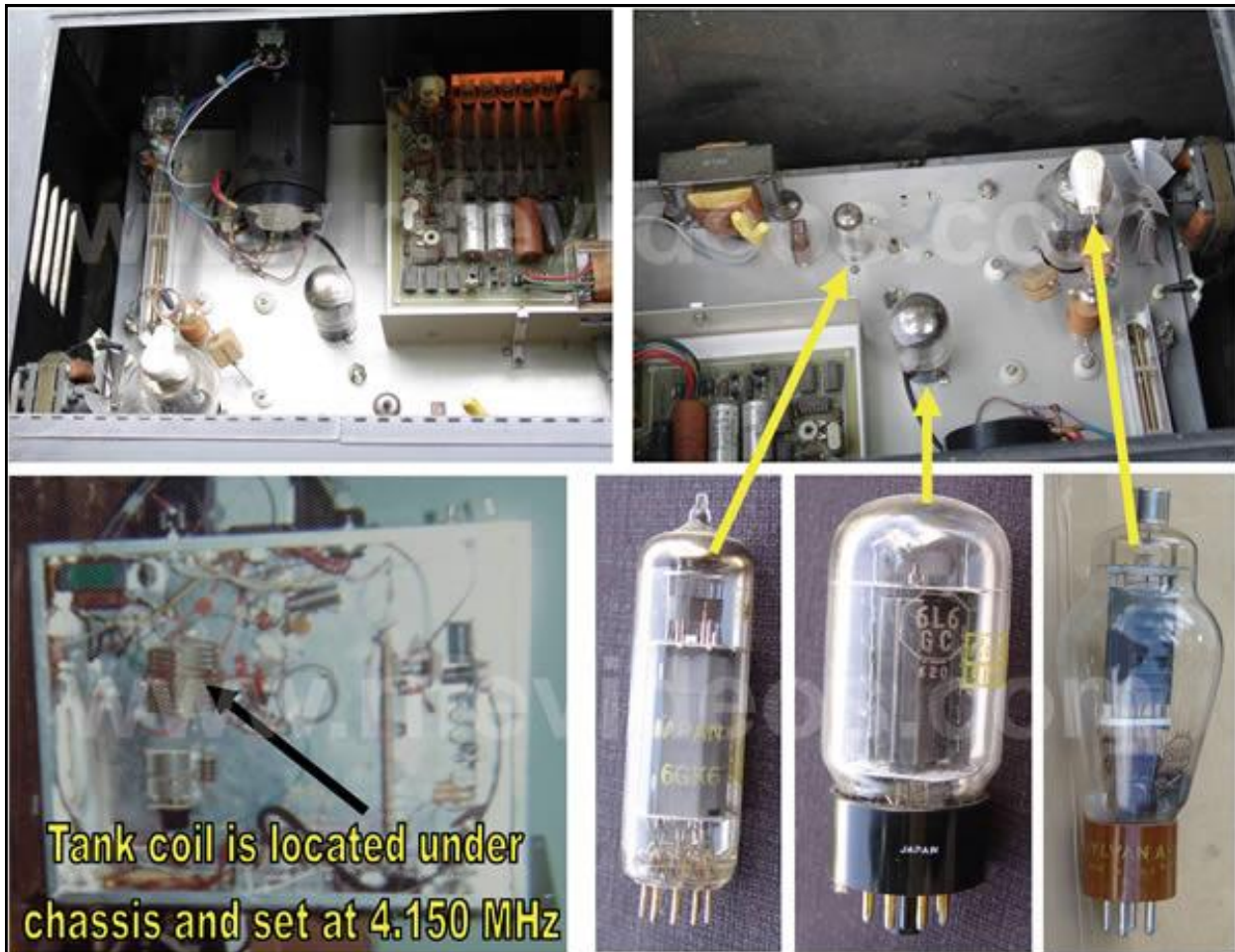




The next photo, shown below, is a back view of the instrument. The meter is a D.C. milliamp meter. The socket to the right of the meter is for connecting the smaller box that has the power transformers.



The next four photos, shown below, give you an understanding of the various components. The first photo labeled #1 is looking at the inside front of the instrument and shows the audio oscillator. To the left of the audio oscillator is the five-minute timer. Photo #2 is looking at the back of the instrument and shows the three vacuum tubes. The three photos of vacuum tubes labeled #4, #5 and #6 show a clear view of the 811a, 6L6GC and 6GK6 vacuum tubes and their placement into the chassis. Photo #3 is one of John Marsh's original 1970 photos which shows the underside of the chassis where you can see the RF tank coil that was fixed at 4.150 MHz (4,150,000 Hertz).





The next photo, shown below, is a side view of the 811a tube. You can also see the RF choke right in front of the 811a tube with a small coil on top of it. This coil helped eliminate any parasitic oscillations.



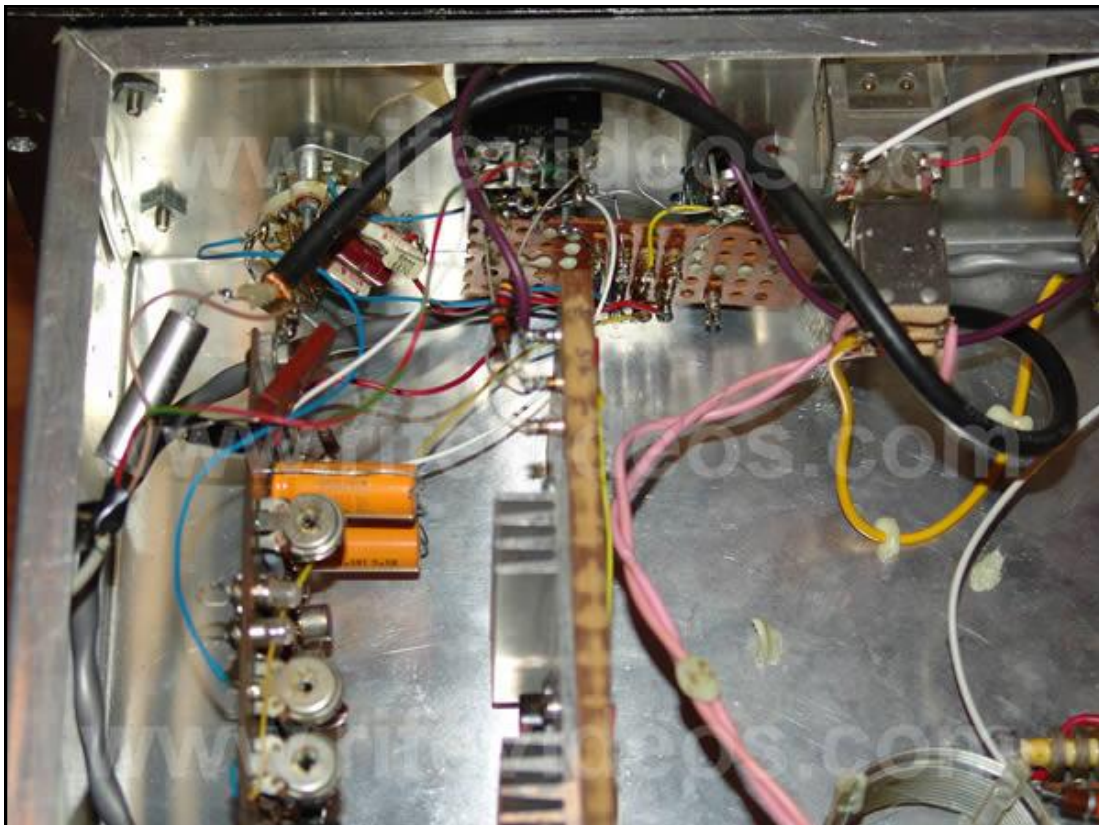
The first of the next two photos, shown below and on the next page, is a photo that was taken of the underside of the chassis. The first photo was one of the three pictures we have of the underside of the chassis. This photo was not very detailed and was taken back in 1971 when the instrument was built.



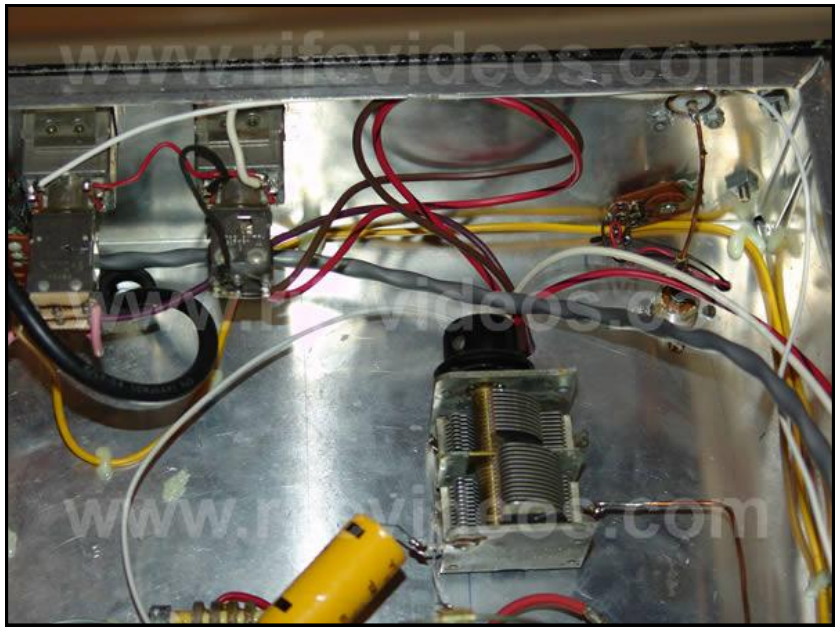
In the second photo, shown below, (new clearer photo) the larger coil is the RF tank coil which was set to 4.150 MHz. The variable capacitor which has the black knob was used to tune the carrier frequency to 4.150 MHz.



The next four photos, shown below and on the next page, are up-close photos of the underside of the chassis showing the various components used to build this instrument.









The next two photos, shown below are of the inside of the small case. It contained almost all the transformers. The standard Beam Ray Rifle Machine had two shelves in one case for components. The AZ-58 combined everything into one case but for some reason, John Marsh used two cases to hold the components.

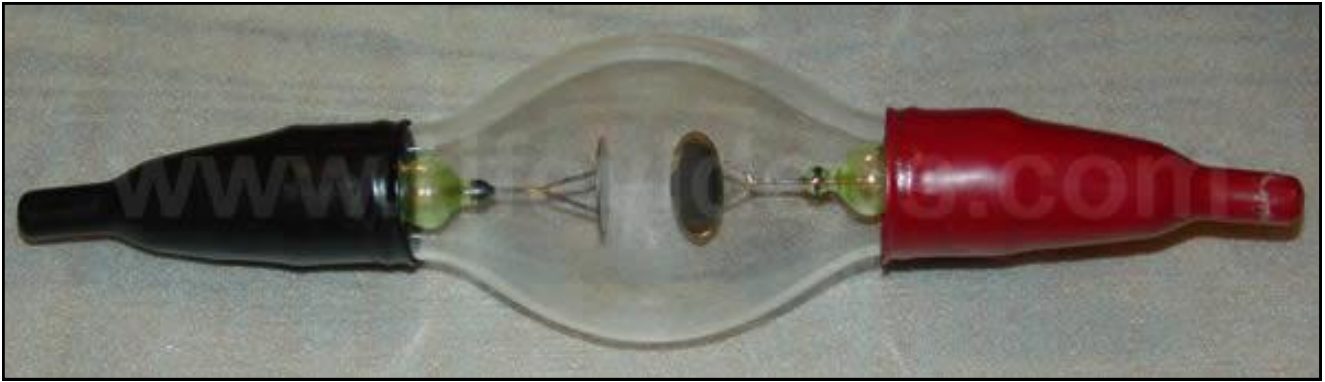


The next two photos, shown below, are of this instrument being used in a doctor's office back in 1972 when John Marsh lived in Colorado.





The photo below is the ray tube that was used with this instrument. The ray tube still worked when we tested it.



John Marsh's instrument, like the AZ-58, was a more modern replica version of the original Beam Ray Clinical Rife Machine. The carrier frequency that John Marsh chose to use with this instrument again clearly shows he did not understand the importance of the RF carrier frequency. He changed it from the 1953 AZ-58's 4.68 MHz to 4.150 MHz. The 4.150 MHz RF carrier frequency is probably one of the worst carrier frequencies he could have chosen using the AZ-58 low audio frequencies for the sideband method. In fact, it would not be a good carrier for the higher audio frequencies either. We will explain again how to determine the best RF carrier frequencies to use in an instrument.

The method Philip Hoyland used to determine the best RF carrier frequency to use was by doing multiples of the BY (Sarcoma 1,529,520 Hertz) and the BX (Carcinoma 1,607,450 Hertz) frequencies. Logically, multiples of these frequencies are the best RF carrier frequencies to use because they were Dr. Rife's highest M.O.R. frequencies that he found. If you multiply the BY frequency by two you get 3,059,040 Hertz and if you multiply the BX frequency by two you get 3,214,900. So an RF carrier frequency in the 3,100,000 to 3,300,000 Hertz range would work well. Philip Hoyland used 3,300,000 Hertz. The next best range would be to multiply these two frequencies by a factor of three. The BY multiplied by three gives you 4,588,560 Hertz and the BX multiplied by three gives you 4,822,350 Hertz. So a carrier frequency in the 4,600,000 to 4,700,000 Hertz range would be the next best RF carrier frequency to use in an instrument. So you can see by the math that 4,150,000 Hertz would not be a good carrier frequency to use if you were going to use the sideband method that Philip Hoyland used when building [the Rife Ray #5 or Beam Ray Clinical instrument](#). The RF carrier frequency should always be determined by multiples of the highest frequencies that Dr. Rife found for the various organisms. The 1953 AZ-58 had an RF carrier frequency of 4,680,000 Hertz. This carrier frequency would have worked very well had they understood the sideband method Philip Hoyland used. Since they lowered the audio frequencies instead of recalculating them to work on the sideband method then this also again reveals that they did not understand how Philip Hoyland's instrument really worked.

With the above understanding, it is easy to see that the only reason you would use a 4.150 MHz RF carrier frequency is if you did not care what RF carrier frequency you used. The fact that they didn't really care what RF carrier frequency they used is without question since both John Marsh and John Crane have said in several documents and on audiotapes that the audio frequencies were the M.O.R. frequencies. The whole concept of using the sideband spacing method is to choose a carrier frequency that would work the best with all of the Rife Ray #4 higher frequency harmonics. Had John Marsh really understood the significance of the RF carrier frequency he would have chosen a different one. But just like the 1953 AZ-58 they changed it and relied on the square wave audio frequency harmonics rather than the sideband spacing method used in the original Beam Ray Clinical instrument. The Aubrey Scoon Beam Ray Clinical instrument replica was working on the sideband spacing method because the audio frequencies used with it were high enough to make the number of sideband harmonics reasonably low. So far Aubrey Scoon's instrument is the only instrument that we have seen, except for the original Beam Ray Clinical Rife Machine, which worked properly on the sideband spacing method.



It is clear that the 1953 AZ-58 was not working fully on the sideband principle even though it could have. It appears that just by chance or accident some of the frequencies, like the BX frequency, worked because the RF carrier frequency was set at about 3.2 MHz by Dr. Stafford. Just the fact that they lowered the audio frequencies by a factor of 10 and then depended solely on square wave audio frequencies showed they didn't understand Philip Hoyland's sideband method. Had Philip Hoyland revealed how his Beam Ray Clinical Rife Machine worked a lot of confusion could have been avoided. This machine of John Marsh's could have easily been changed to work properly on the sideband method. The audio frequency range was designed to go to 20,000 Hertz. If the RF carrier frequency was changed to 3,300,000 Hertz, which would have been easy to do, then most of the original audio frequencies could have been used. The only two that would need to have been re-calculated would have been the BX and the BY frequencies. This also would have been easy to do.

In the chart, shown below, the frequencies have been calculated for John Marsh's instrument. You will notice that the "Original 1950's AZ-58 Frequencies" (low audio frequencies) are almost a perfect match to the "Correct Sideband Frequencies." But before we place too much significance in this coincidence we need to keep in mind the "Number of Sideband Harmonics." These numbers are so high that almost any low frequency can be divided into the "Carrier Difference Frequency" and come out within a few Hertz of the "Correct Sideband Frequency." The audio frequency needs to be a great deal higher in order to make it so the sideband frequencies will work. This is due to the fact that power is lost in sidebands. We must keep in mind that the higher the audio frequency is, the lower the number of sidebands that will be created and the better they will work. So these low audio frequencies in the chart below are too low to work with an RF carrier frequency of 4.150 MHz. In fact, they would be too low to work even if they were used with a 3.30 MHz RF carrier frequency as was used in the original Beam Ray Clinical instrument. Using the higher audio frequencies like Philip Hoyland used is the meth-

<b>John Marsh's Beam Ray Clinical Instrument Sideband Square Wave Audio Frequencies Based On A 4.150 MHz Carrier</b>							
<b>Organism</b>	<b>Rife Ray #4 Frequencies</b>	<b>Higher Harmonic Frequencies</b>	<b>*Carrier Difference Frequency</b>	<b>1/10 Of A Meter Freq.</b>	<b>Number of Sideband Harmonics</b>	<b>Original 1950's AZ-58 Frequencies</b>	<b>Correct Sideband Frequencies</b>
Actinomycosis or Streptothrix	192,000 Hz	4,032,000 or 21st	118,000 Hz	12 Hz	151	784 Hz	781 Hz
Anthrax	139,200 Hz	4,176,000 or 30th	26,000 Hz	6 Hz	41		634 Hz
B or E Coli Rod	417,000 Hz	4,170,000 or 10th	20,000 Hz	58 Hz	25	800 Hz	800 Hz
B or E Coli Virus	770,000 Hz	3,850,000 or 5th	300,000 Hz	198 Hz	193	1552 Hz	1554 Hz
BX Virus Carcinoma	1,604,000 Hz	4,812,000 or 3rd	662,000 Hz	858 Hz	311	2128 Hz	2129 Hz
BY Sarcoma	?1,530,000 Hz	4,590,000 or 3rd	440,000 Hz	780 Hz	219	2008 Hz	2009 Hz
Gonorrhea	233,000 Hz	4,194,000 or 18th	44,000 Hz	18 Hz	62	712 Hz	710 Hz
Pneumonia or Spinal Meningitis	427,000 Hz	4,270,000 or 10th	120,000 Hz	61 Hz	155	776 Hz	774 Hz
Staphylococcus Pyogenes Aureus	478,000 Hz	4,302,000 or 10th	152,000 Hz	76 Hz	209	727 Hz	727 Hz
Streptococcus Pyogenes	720,000 Hz	4,320,000 or 6th	170,000 Hz	173 Hz	193	880 Hz	880 Hz
Syphilis	789,000 Hz	3,945,000 or 5th	205,000 Hz	207 Hz	311	660Hz	659 Hz
Tetanus	234,000 Hz	4,212,000 18th	62,000 Hz	18 Hz	517	120 Hz	120 Hz
Tuberculosis Rod	369,000 Hz	4,059,000 or 11th	91,000 Hz	45 Hz	113	803 Hz	805 Hz
Tuberculosis Virus	769,000 Hz	3,845,000 or 5th	305,000 Hz	197 Hz	197	1552 Hz	1548 Hz
Typhoid Rod	760,000 Hz	3,800,000 or 5th	350,000 Hz	192 Hz	492	712 Hz	711 Hz
Typhoid Virus	1,445,000 Hz	4,335,000 or 3rd	185,000 Hz	694 Hz	99	1862 Hz	1869 Hz

od that worked in the original equipment. If the frequency you want to hit is close to the RF carrier frequency then the lower the audio frequency you can use. But if the frequency is farther away from the carrier frequency then the higher the audio frequency you will need to use in order to make it work properly. Philip Hoyland could have used even higher audio frequencies since his audio oscillator in the original Rife Ray #5 or Beam Ray Clinical instrument would go to a little over 40,000 Hertz. He could have used frequencies up in the 30,000 to 40,000 Hertz range which would have worked with even fewer sidebands. But Philip Hoyland was also trying to hide the method he was using. So Philip Hoyland balanced his frequencies in order to make sure they would work and also not reveal the method he was using. He did accomplish his goal.

If you look at the “Number of Sideband Harmonics” it takes to hit the correct Rife Ray #4 “Higher Harmonic Frequencies” you will understand that this instrument could never work on the sideband spacing method using these low audio frequencies. None of the “Number of Sideband Harmonics” is less than 59 sideband steps and the highest is 75. The chance of this working would be almost zero. The best method to use with John Marsh’s instrument is the audio frequency square wave harmonic method. This is the method he used with his instrument.

In the chart below is a list of the higher audio frequencies, 20,000 Hertz or lower, that could be used with John Marsh’s instrument and make it work using the harmonic sideband method. Many different audio frequencies could be calculated to work. We did the highest audio frequency for each organism. The BX and the BY frequencies probably would not work since the sidebands would have to go nearly 600,000 Hertz to hit the correct frequency. For this reason, the RF carrier frequency should be changed. The best frequencies would always be the highest audio frequency you could use within the 20,000 Hertz frequency range of the instrument.

<b>John Marsh’s Beam Ray Clinical Instrument Higher Sideband Square Wave Audio Frequencies Based On A 4.150 MHz Carrier</b>			
Anthrax	13,000 Hz	Streptococcus	18,889 Hz
B or E Coli Rod	10,000 Hz	Steptothrix	19,667 Hz
B or E Coli Virus	20,000 Hz	Syphilis or Treponema	18,636 Hz
BX Virus Carcinoma	19,471 Hz	Tetanus	15,500 Hz
BY Sarcoma	19,130 Hz	Tuberculosis Rod	18,200 Hz
Gonorrhea	14,667 Hz	Tuberculosis Virus	19,062 Hz
Pneumonia or Spinal Meningitis	17,143 Hz	Typhoid Rod	19,444 Hz
Staphylococcus	19,000 Hz	Typhoid Virus	18,500 Hz

**CHAPTER SUMMARY:** The fact that John Marsh built these Beam Ray replica Rife Machines and used different RF carrier frequencies with the same audio frequencies conclusively proves that he never understood how the instrument was really intended to work. This also shows that John Crane didn't really know how the instrument was intended to work either. John Crane was doing the same thing that John Marsh was doing. The fact that Philip Hoyland did not reveal how the Beam Ray Clinical instrument really worked has affected Rife's work in a negative way to this very day.

In chapter 16, we will look at the ray tube instrument that John Marsh built back in the 1980s when he lived in Salt Lake City, Utah.

## Chapter #16

### John Marsh's 1980's Ray Tube Rife Machine



1. Used a ray tube.
2. The Carrier frequency was?
3. Square wave audio frequencies modulated onto a sine wave carrier frequency.
4. Power usage was about 250 watts. Output to the ray tube about 50 watts.

This style of ray tube instrument Model JLMSQ-101, which was built in the 1980s, was the last design that John Marsh built before his death. All of his Rife Machines and Rife information were given to his nurse before his death. His equipment and documents were obtained from her in 2012. Since we were able to obtain this instrument we have been able to date it and take better photos of the complete instrument. Some of this information and new photos are shown below and are now included in this report.



John Marsh built two different models of this style of Rife Machine. In the next two photos, shown below, we see the first model of this style of instrument. The instrument was a mix of both old vacuum tube technology and modern solid-state technology. The audio oscillator was a solid-state variable audio oscillator with a digital readout for displaying the frequencies. The frequency range went from about 20 Hertz to 20,000 Hertz. The instrument used the same low square wave audio frequencies that were used in the 1950's AZ-58 Rife Machine built-in 1953. Those thirteen frequencies were 120, 660, 712, 727, 776, 784, 800, 803, 880, 1552, 1862, 2008, 2128. The RF carrier frequency section was built using old vacuum tube technology. The RF carrier frequency was set at 2,200,000 Hertz. This RF carrier frequency again shows that John Marsh did not understand the harmonic sideband method that Philip Hoyland used in the original [Rife Ray #5 or Beam Ray Clinical Rife Machine](#) sold by the 1938-1939 Beam Ray Corporation. His earlier 1971 instrument which was discussed in [Chapter 15](#) of this report used a 4.150 MHz (4,150,000 Hertz) RF carrier frequency. Both of these RF carrier frequencies (2.2 MHz and 4.150 MHz) clearly show that Philip Hoyland's sideband method was not used. What became of this instrument is not known. John Marsh most likely sold it to someone because he was building these for a few people who wanted them.

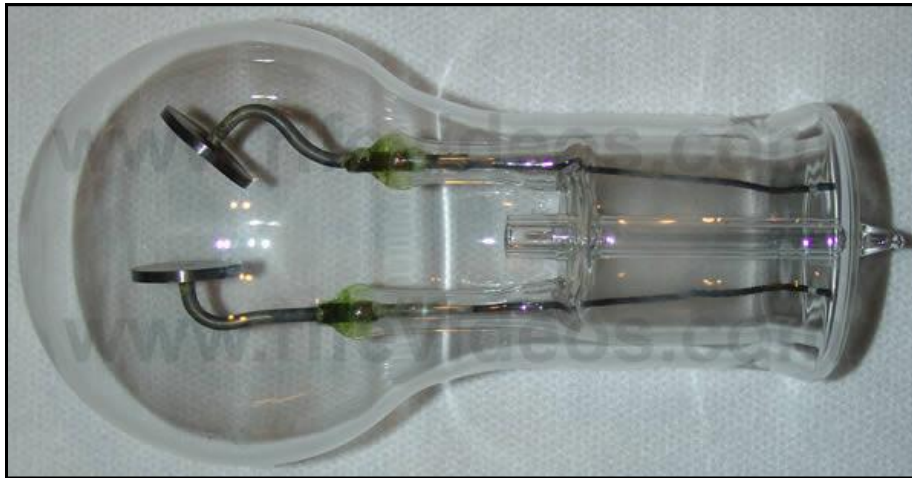


In the first photo, shown below, we see John Marsh's second style of Rife Machine. This is the same machine shown in the first photo of this chapter. This machine John Marsh used until his death in 1987. This machine was given to his nurse. We now have this machine and know how it worked. The instrument uses the same low square wave audio frequencies that were used in the 1953 AZ-58 Rife Machine. This instrument was unique because he did not have it built with a variable audio oscillator. Instead, it had a dial that had 13 different positions for the 13 different audio frequencies which he used. John also had this instrument RF section built using old vacuum tube technology. The RF carrier frequency was also set to 2,200,000 Hertz (2.20 MHz). The fact that this instrument is still being used even after about thirty years speaks of its quality of construction. In the second photo, shown below, we see John Marsh with this instrument in the 1980s shortly before his death.





The ray tube used with this instrument has an interesting design because it was designed to stand up. In the new photo, shown below, you can see an up-close view of this ray tube.



Below is a photo of the inside of the case that held the ray tube. You will notice that the ray tube is darkened. This happens to this type of ray tube because the metal electrodes are on the inside of the ray tube. When the ray tube is lit the metal comes off the electrodes and over time slowly contaminates the gas and the interior of the tube. The metal deposits or coats the inside of the ray tube and then the ray tube becomes less effective. In many cases, the ray tube begins to sputter requiring it to be replaced or cleaned out and re-gassed. The photo of the new ray tube, shown above, is one of the extra ray tubes that John had built for this instrument. Many people no longer use ray tubes with internal electrodes because of this problem. The tubes without internal electrodes last for many years without any need for replacement. Some people have used them for more than 20 years and the ray tubes are still working without any problems.





The photo, shown below, is the underside of the instrument with the bottom removed.



The next picture, shown below, is a photo of the instrument with the top cover removed.





The next photo, shown below, is a close up of the RF carrier frequency section showing the RF tank coil and the two variable tuning capacitors for tuning the RF carrier frequency to 2.20 MHz and for tuning the ray tube resonance.



In the next photo, shown below, you can see the two brass-colored nuts with regular screwdriver slots. The one on the left labeled "Load" was for tuning the ray tube and the other on the right which is labeled "Tune" was for tuning the carrier frequency.



The next photo, shown below, is a side view of the instrument showing the electronics for the thirteen square wave audio frequencies.



In the next photo, shown below you can see the tuning dial for each of the thirteen square wave audio frequencies. The dial started with the lowest audio frequency and went to the highest. The audio frequencies went in clockwise order from the first setting to the last setting 120, 660, 712, 727, 776, 784, 800, 803, 880, 1552, 1862, 2008, 2128.





The final photo, shown below, is of the machine with the ray tube lit. The ray tube would be a lot brighter if the tube was in new condition.

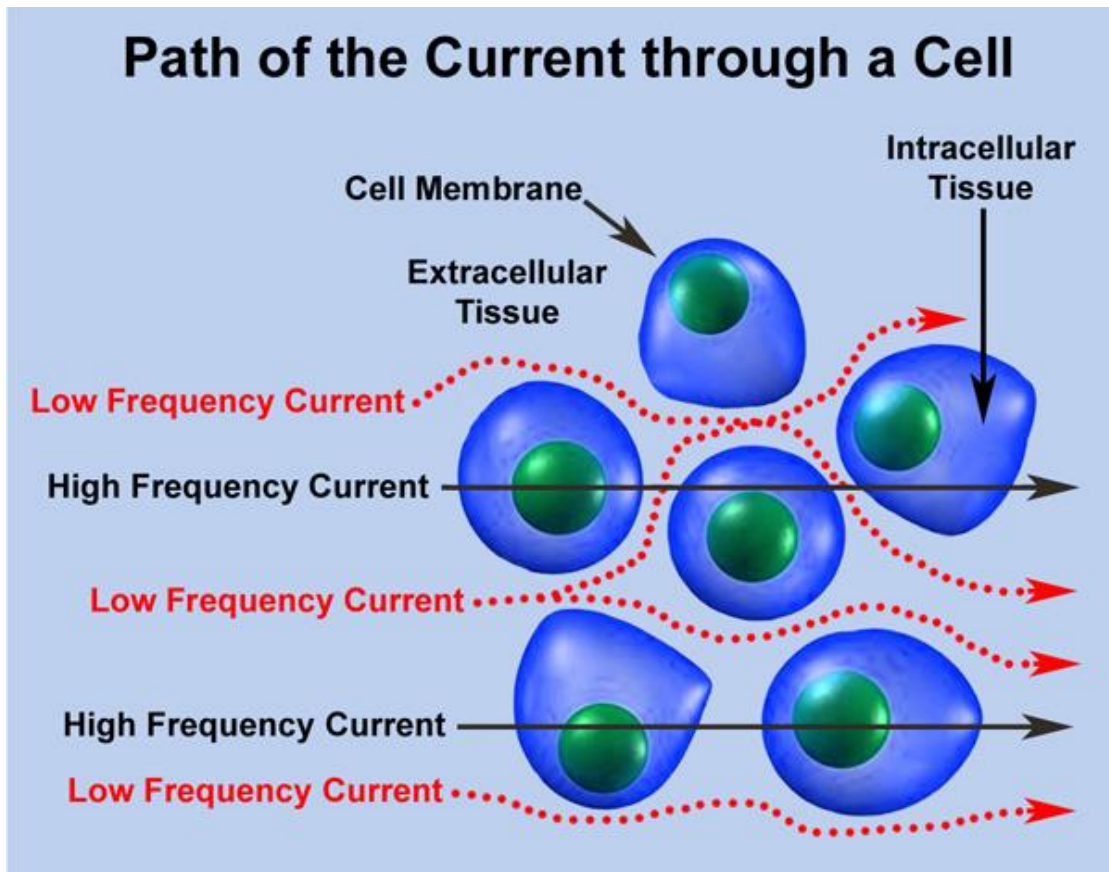


**CHAPTER SUMMARY:** This instrument built by John Marsh used the same frequencies as the 1953 AZ-58. It also worked on the same low audio frequency square wave harmonics method as the AZ-58. The power level was lower than the AZ-58 and his 1970's AZ 58 replica discussed in chapter 15 of this report. This instrument was the last ray tube instrument John Marsh built before his death in 1987.

In chapter 17, we will discuss the incorrect “Skin Effect” Myth which is about how frequencies penetrate into body tissue.

## Chapter 17

### The "Skin Effect" Myth and Dr. Rife's Frequencies



The "Skin Effect" is real but how it pertains to human tissue when using Dr. Rife's frequencies is the "Myth." The "Myth" is; there is no difference between the body and a metal wire when it comes to using Dr. Rife's range of frequencies with "Pads" or electrodes.

The "Skin Effect" myth was started by people who only believe that a plasma ray tube could deliver Dr. Rife's frequencies. In their attempt to persuade prospective customers from purchasing frequency generators, which use metal hand cylinders and footplates, they used the misinterpretation of the "Skin Effect" to try and convince people to only purchase ray tube instruments. This belief is based on an incorrect understanding of what the "Skin Effect" really is, and how it works. It is hard to believe but they are applying the "Skin Effect" scientific definition of a metal wire to human skin and tissue as though they are made of the same material. Here is one of their incorrect quotes:

*"Much research has been done proving that the higher the frequency, the more the current follows the outside of the body. Thus it is referred to as the skin effect. The higher the frequency, the shallower the penetration. At frequencies above 1 MHz, skin effect will limit penetration to a fraction of an inch."*

Scientifically, this claim is false and misleading. There is no research that verifies this claim for any of the frequencies in the ranges that Dr. Rife used. His frequency range went from 15,779 Hertz to about 18 million Hertz or cycles per second. The research on high frequencies they are talking about deals with frequencies thousands of millions of Hertz higher than those used by Dr. Rife. In a 1997 Harvard Education Course about "Absorption of RF (Radio Frequency) Radiation" (Not dangerous X-ray radiation), the following is stated under the title of "How do different tissues absorb [RF] radiation?" We quote:

"At frequencies between 300 and 3,000 MHz [300 million Hertz to 3,000 million Hertz], electromagnetic energy can penetrate into more deeply situated tissues, making it especially desirable for therapeutic applications." <http://people.seas.harvard.edu/~jones/cscie129/pages/health/absorp.htm#frequency>

Since the frequency range that Dr. Rife used did not even exceed 20 MHz (20 million Hertz) and this frequency range can and does "penetrate into more deeply situated tissues." This means their statement that "At frequencies above 1 MHz [1 million Hertz], skin effect will limit penetration to a fraction of an inch" is incorrect. It is actually frequencies that are below 1 MHz (1 million Hertz) that have difficulties penetrating human cells. This is the main reason why Dr. Rife used an RF Carrier frequency of 1 MHz or higher with these low audio frequencies. The importance of why Dr. Rife used an RF Carrier frequency will become apparent as we continue to discuss the topics of the "Skin Effect", "Body Impedance Analysis" and an "RF Carrier" frequency. Every quote we give will be backed up with links to the supporting documents.

Now that we have corrected this 1 MHz "penetration to a fraction of an inch" incorrect information we will continue by reading the "Skin Effect" definition. This will correct other incorrect statements that have been made in regards to this subject. Quote:

**SKIN EFFECT:** *"Skin effect is the tendency of an alternating electric current (AC), electrons to flow more at the outer surface of the wire rather than through the middle. The higher the frequency, the more the skin effect and the greater the resistance. Stranded wire produces less skin effect than solid wire, because there is more surface area. The skin effect enables copper-clad steel wire to be used. The steel adds cable strength, and the current flows mostly through the better conducting copper. The skin effect is due to opposing eddy currents induced by the changing magnetic field resulting from the alternating current. At 60 Hertz in copper, the skin depth is about 8.5 mm. At high frequencies the skin depth becomes much smaller. Increased AC resistance due to the skin effect can be mitigated by using specially woven Litz wire."* [https://en.wikipedia.org/wiki/Skin\\_effect](https://en.wikipedia.org/wiki/Skin_effect)

If you read carefully the "Skin Effect" definition above, you will notice that the "Skin Effect" only pertains to a metal conductor or electrical wire. There is no mention of human skin or tissue because the "Skin Effect" has nothing to do with it. In fact, the "Skin Effect" does not pertain to human tissue, skin or any of the frequency ranges used by Dr. Rife with all of his "Rife Machines" built from the 1920s to the 1950s. There are many videos and written scientific reports on the web about how frequencies can and do penetrate body tissue. If you just do a search of "Body Impedance Analysis" you will find dozens of these reports and the equipment used for taking these measurements. These reports deal with body composition such as body fat, lean muscle mass, bone, and water which is measured by sending various frequencies into the body tissue, with stick-on electrodes, which work no different than metal hand-cylinder electrodes. The most important part about this scientific "Body Impedance Analysis" information is that it scientifically shows how frequencies can and do penetrate human skin and body tissue. Also, you will find below on this page a complete scientific "Body Impedance Analysis" report and links to several more of these reports. There is also a link to an "Absorption of RF (Radio Frequency) Radiation Report" for those who want to read more about this subject since Dr. Rife used audio and RF frequencies in his Rife machines.

Some people find these body impedance reports difficult to understand so we have included links for 2 videos that talk about "Body Impedance Analysis" and show how frequencies penetrate human skin and tissue. You will want to watch these 2 short easy to understand videos. The first video is only about 3 minutes. The second video is only about 5 minutes and it talks about some of the same information which is in the first video, but it also mentions at 3 minutes and 50 seconds a 534-ohm body resistance reading measured with the "Body Impedance Analysis" instrument used in the test. This 534-ohm body resistance reading will be important to this discussion of how electrical frequencies penetrate human skin and other body tissues. Click on the link or the photo to watch the video.



Video #1 <https://www.youtube.com/watch?v=047IML9ndPo>

Video #2 <https://www.youtube.com/watch?v=vTcUS3qCLSU>



There is more information that should be understood before reading the "Body Impedance Analysis" report below. In this discussion, we do not want to get lost in how these "Body Impedance Analysis" instruments are able to read lean muscle mass, body fat, and water. What we are interested in is how frequencies penetrate the skin, body fat, cells and muscle mass using electrodes. If there really was a "Skin Effect" with human tissue then the many available body impedance instruments sold on the market today would not be able to read anything because the frequencies they use would not be able to penetrate any skin or body tissue. All of the scientific evidence proves there is no such thing as the "Skin Effect" with human tissue. There is another type of report on this subject that can give us information about how frequencies interact with human skin and tissue. They are 'Deaths By Electrocution.' We will also be quoting from these types of reports.

The U.S. Department Of Health And Human Services published a summary of The National Institute for Occupational Safety and Health (NIOSH) report entitled "Workers Deaths By Electrocution." On pages numbered 6, 7 and 8 of that 51-page report, they talk about how common house wall socket electricity of 110 volts at 60 Hertz (60 cycles per second) can enter the body causing both injury and death if the current or amperage is too high. In the last two paragraphs on page 7, they state the following about the body's resistance levels. Quote:

*"Under dry conditions, the resistance offered by the human body may be as high as 100,000 Ohms. Wet or broken skin may drop the body's resistance to 1,000 Ohms... Ohm's law demonstrates how moisture affects low-voltage electrocutions... High-voltage electrical energy quickly breaks down human skin, reducing the human body's resistance to 500 Ohms. Once the skin is punctured, the lowered resistance results in massive current flow... Again, Ohm's law is used to demonstrate the action."*

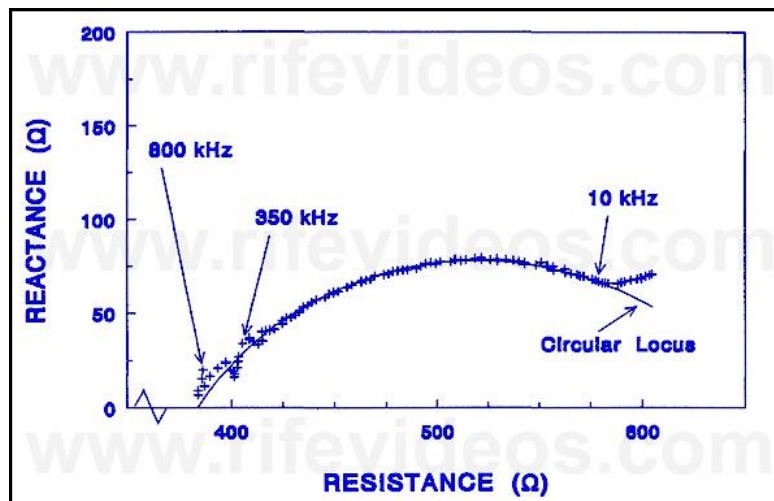
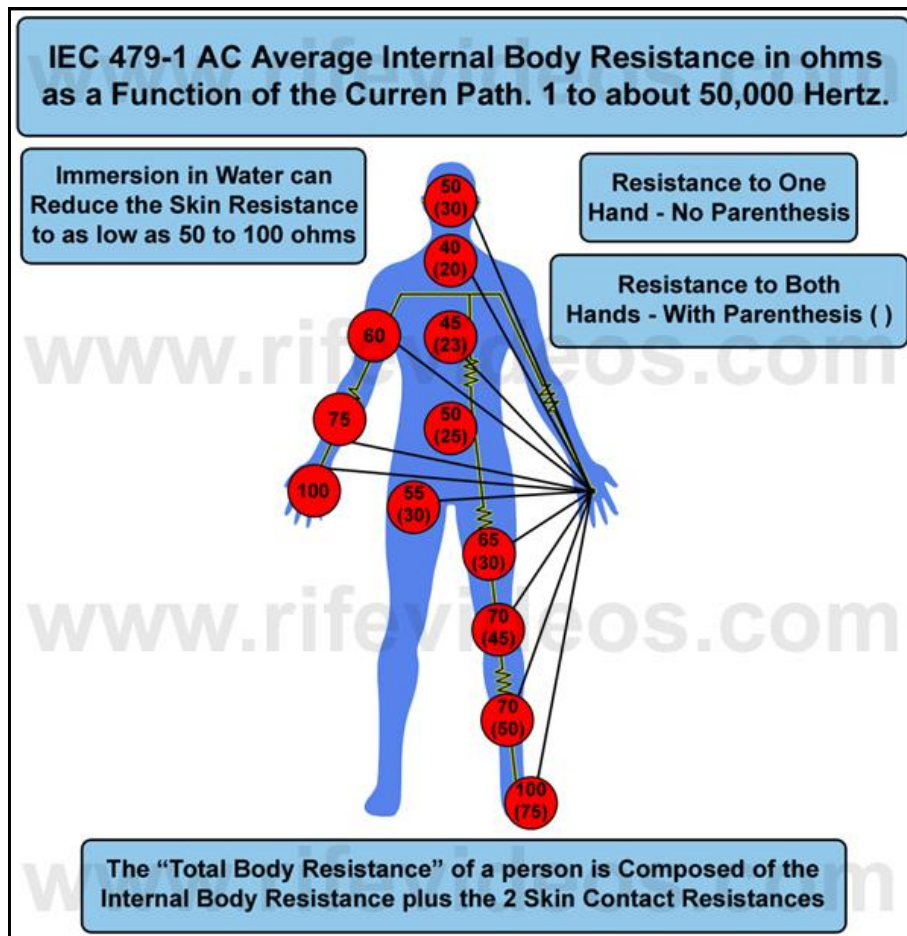
<https://www.cdc.gov/niosh/docs/98-131/pdfs/98-131.pdf>

Now with this understanding, we will discuss the **534-ohm body resistance reading** mentioned in the above second video. Because the human body's skin and tissue resistance varies from person to person there have been many scientific tests done to determine what the overall body average resistance is. In one such scientific report intitled "Conduction of Electrical Current to and Through the Human Body: A Review," it states on pages 408, 417 and 418 the following. Quote:

*"Unless otherwise noted, this article is referring to currents and voltages of 60 (or 50) Hz AC [alternating current] rms. Also, by resistance, we actually mean the magnitude of the impedance... The total body resistance from hand to foot in water is considered to be 300 ohms when considering safety precautions. Smoot measured a total body resistance of 400 ohms with immersion. Much of this is due to the internal body resistance. Thus, immersion eliminates most of the skin resistance... The total body resistance in water is of 300 ohms. Thus, the current needed and the resistance it must experience are known."* <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2763825/pdf/eplasty09e44.pdf>

Below are two diagrams. The first one is of the average internal human body resistance or impedance without the external skin impedance measurements. This diagram (in its black and white version) can be found in the document entitled "Comparison of touch and step voltages between IEEE Std 80 and IEC 479-1" at the link below. It is a read online document. There are many other body impedance diagrams similar to this one on the internet, but this one we believe has the most accurate measurements. Other diagrams will give readings of about 500 ohms from the hand to the foot which is the average measurement, but they do not explain that their reading includes internal body impedance and the two skin impedance readings which must be included. This diagram gives all of the readings including measurements if you use two hands and one foot. Doing this gives more skin surface area for the electrodes which would lower the overall impedance for the frequency being used. The second diagram below shows how the body impedance lowers as the frequency goes higher.

<https://dokumen.tips/documents/iec-479-1.html>



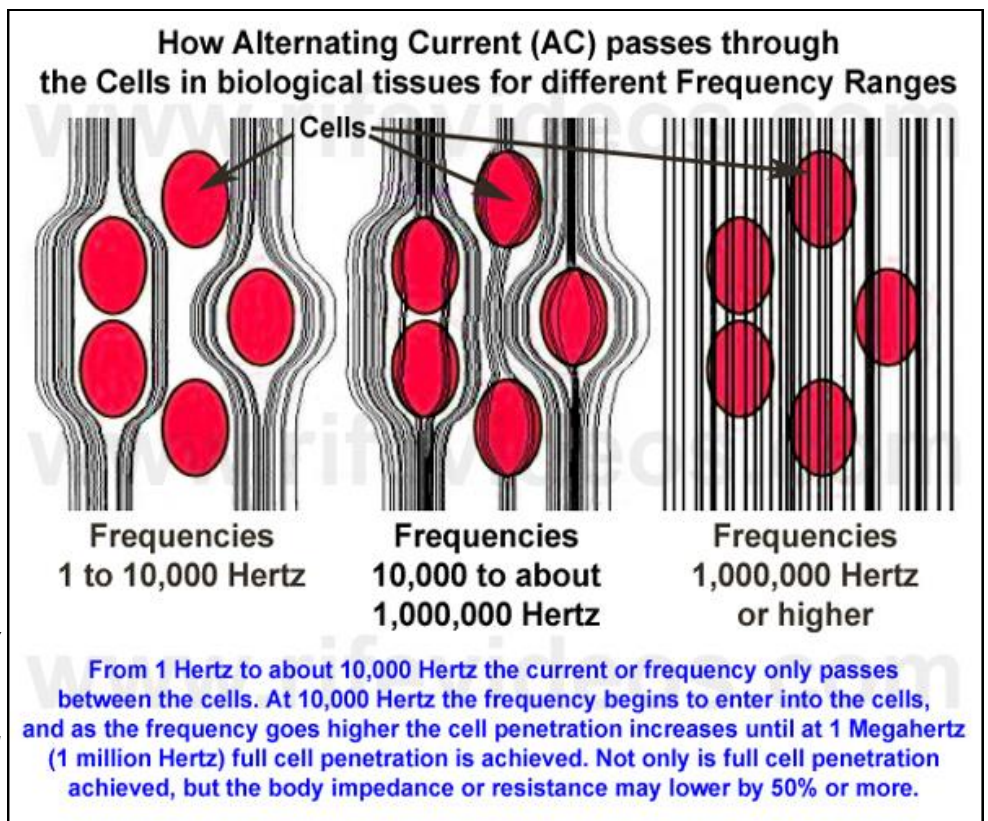
In the above second video, the hand-to-foot **534-ohm body resistance reading** was done with stick-on electrodes. They are not as conductive as immersing the skin into water but they are very close to that capability. If you look at the above diagram with its measurements you can see the resistance for hand-to-foot is 100 ohms. This must be added to the two skin contact points of 50 to 100 ohms each. If we use the 100 ohms measurement this would equal 300 ohms matching the statement "The total body resistance in water is of 300 ohms." The person in video #2 had a hand-to-foot **534-ohm body resistance reading**. The average person measurement was listed as "400 ohms." These measurements give us an average ohms range from 400 ohms to about 550 ohms for testing the power output capability of any instrument. This ohms measurement is necessary when doing any type of "Load Test" when using an ["ohms law calculator"](#) to determine the power output in watts of an instrument.

In all "Bio-Impedance Analysis" reports, like the one which was quoted above, we find that water "immersion eliminates most of the skin resistance." This covers all of the frequencies in the low audio frequency range. It also has the same effect with higher frequencies which are in the higher RF (Radio Frequency) ranges that Dr. Rife used. The reason for this is that the higher the frequencies go up into the RF range the body impedance or resistance lessens and the frequencies penetrate easier into the tissue. An easy way to understand this is that a radio station broadcasts on its RF frequency band and its signal is able to penetrate through our home walls and we can listen to that station. The wall cannot stop the radio station frequencies. The human body with its 50,000 to 100,000 ohm's resistance does stop weak radio station frequencies from penetrating human tissue. But the combination of the **wet skin and higher frequencies** completely eliminates any cell and tissue resistance if an RF Carrier frequency of at least 1 Megahertz (1 million Hertz) is used with lower frequencies.

Because of what has been explained it is important when using any type of metal electrodes, such as metal hand-cylinders and footplates, to use some form of cloth covers which can be immersed in water. They should be as wet as possible without water dripping from them. This will make the surface of the skin, which will be touching the wet cloth covers, as wet as being immersed in the water allowing the maximum power transfer of the frequencies into the user.

On the right is a "Body Impedance Analysis" diagram showing how the different frequency ranges penetrate the cells and tissues of the body. In the National Institutes of Health Technology Assessment Conference Statement of December 12-14,1994 intitled "Bioelectrical Impedance Analysis in Body Composition Measurement" it states on page 15, in the last paragraph the following:

*"It is commonly assumed that a 50-kHz (50,000 Hertz) signal penetrates cell membranes and freely passes through all fluids. Unfortunately, this assumption is known to be false; the current is carried by extracellular fluid plus some component of intracellular fluid."*



<https://consensus.nih.gov/1994/1994bioelectricimpedancebodyta015pdf.pdf>



## Importance Of Using An RF Carrier Frequency Like Dr. Rife Used

There are several so-called "Rife Machine" manufactures that claim that any use of an RF Carrier frequency, like what Dr. Rife used, is potentially harmful. Below are a few of the many statements that have been made. Quote:

1. *"We don't use any wasteful and potentially harmful fixed carrier frequency."*
2. *"We don't waste power in creating and transmitting detrimental carrier frequencies."*
3. *"We do not use a carrier wave as promoted by some manufacturers."*
4. *"Other researchers have drawn similar conclusions as regards to carrier waves being unnecessary as long as the device has sufficient output."*

In these statements, they justify not using a carrier frequency, like Dr. Rife used because other so-called researchers including themselves believe the RF Carrier frequency is **"detrimental, wasteful, potentially harmful and unnecessary."** They have come to believe they are smarter or more intelligent than Dr. Rife.

We will now show that all of these statements are incorrect and that an RF Carrier frequency is absolutely necessary in order to get low frequencies into the cells of the body. The above cell penetration "Bio Impedance" diagram shows clearly why an RF Carrier is necessary. For frequencies below 10,000 Hertz, there is no cell penetration. At about 10,000 Hertz frequencies start having a very small amount of cell penetration but full cell penetration is not achieved until about 1,000,000 Hertz (1 million Hertz). Here is a statement of Dr. Rife's which shows that he used an RF Carrier frequency and understood how important it really was. Quote:

**RIFE:** *"The basic principle of this device is the control of a desired frequency. These frequencies varying upon the organisms being treated. The frequency is set which controls the initial oscillator, which in turn is run through six stages of amplification, the last stage driving a 50-watt output tube.*

*The frequency with its carrier wave is transmitted into an output tube [gas filled plasma ray tube] similar to the standard X-ray tube but filled with a different inert gas. This tube acts as a directional antenna. The importance in the variable control of these frequencies is that each pathogenic organism being treated is of a different chemical consistency, the consequence being they carry a different molecular vibratory rate. Each one in turn under these conditions requires a different frequency or vibratory rate to destroy."* (Letter from Jack Free to Dr. Milbank Johnson M.D., December 17, 1935)  
[http://www.rifevideos.com/pdf/pdf\\_files\\_for\\_rifevideos/12\\_17\\_1935\\_rife\\_ray\\_discription.pdf](http://www.rifevideos.com/pdf/pdf_files_for_rifevideos/12_17_1935_rife_ray_discription.pdf)

Dr. Rife used audio and RF frequencies in his instruments. He also used an RF Carrier frequency with all of his instruments. In all of the "Body Impedance" testing, we find that there is no cell penetration with any audio frequencies below 10,000 Hertz. We also read:

*"it is commonly assumed that a 50-kHz (50,000 Hertz) signal penetrates cell membranes and freely passes through all fluids. Unfortunately, this assumption is known to be false."*

Cell membrane penetration begins to have some penetration at about 10,000 Hertz and slowly goes deeper into the cell, but, it does not achieve full cell penetration until 1 Megahertz (1 million Hertz). This is the reason why an RF Carrier frequency, like the one Dr. Rife used, is absolutely necessary especially with frequencies below 100,000 Hertz. Over 98% of all the frequencies that are used with almost all of the so-called "Rife Machines" are below 40,000 Hertz.

What really limits using audio frequencies without the use of an RF Carrier frequency is the voltage and current levels must be limited for the safety of the user. Most people can only handle about

1/10th (0.10) to 2/10ths (0.20) (Average person about 0.12) of 1-watt without the use of an RF Carrier frequency. Once an RF Carrier frequency is used the frequencies cannot be felt by the user so the power level can be increased to as much as 15 to about 20 watts without the body feeling anything as long as a large enough skin surface area is used. Dr. Rife never used high power levels in direct contact with the skin of a person that could cause injury. This also does not mean that very low power levels will produce results either. There is a balance of power that is needed which will not harm a person but will accomplish the desired results and only an RF Carrier frequency makes this power level possible.

## Life Labs 1957 Contact Pad Instrument



In 1957 Dr. Rife's two business partners, John Crane, and John Marsh came up with the concept of using low power contact instruments like "Tens Machine." Above is a photo of the first 1957 contact instrument and chapter 14 of this report has a great deal more documented information about this 1957 instrument. "Tens Machines" that do not use an RF Carrier frequency, are used by many physical therapists and chiropractors. These instruments output frequencies in the low audio frequency range of 1 Hertz to about 50,000 Hertz. These frequencies are used to stimulate muscles and tendons which help to heal by reducing inflammation and other problems with their patient's body.

These Tens Machines use highly conductive electrode pads that come in contact with the skin of the user to deliver the frequencies. John Crane and John Marsh decided in 1957 to use this electrode contact method with a frequency generator to deliver the frequencies to the user, instead of using a glass plasma filled ray tube. They wanted a less expensive instrument so people could afford one. This is how the contact method of using metal electrodes got started with contact type frequency generators. Notice in the photo above it has two metal round disks. Later metal hand-cylinders replaced these disks. This contact electrode method was and is built upon a solid scientific foundation called "Conduction" that is still used today by many health practitioners. In the 1970's Bertrand Comparet, Dr. Rife's attorney was interviewed by Dr. Hubbard M.D. They discussed the low power metal contact type instrument, and this is what Comparet stated. Quote:

**COMPARET:** "And I asked Rife because I thought Rife would certainly say that the way Crane was working on it then was still using the Rife principle, but he indignantly denied it."

**HUBBARD:** "All right, I see. But, getting back, you say that Rife was very indignant, that the machine that Crane was building was really his [Cranes] idea. I suppose he did not compromise on that, did he?"

**COMPARET:** "Oh no, he just blew up." ([1970's Bertrand Comparet interview #32 & 40](#))

Here is another statement Bertrand Comparet made in that interview. Quote:

**COMPARET:** "Now, Crane said "Well now look, Rife himself admits that no matter how much tube and ray, and so on, you have, you can't get any results unless you've got the right frequency. Therefore the real clue to the thing is the frequency and not the means by which you deliver it." ([1970's Bertrand Comparet Interview #33](#))

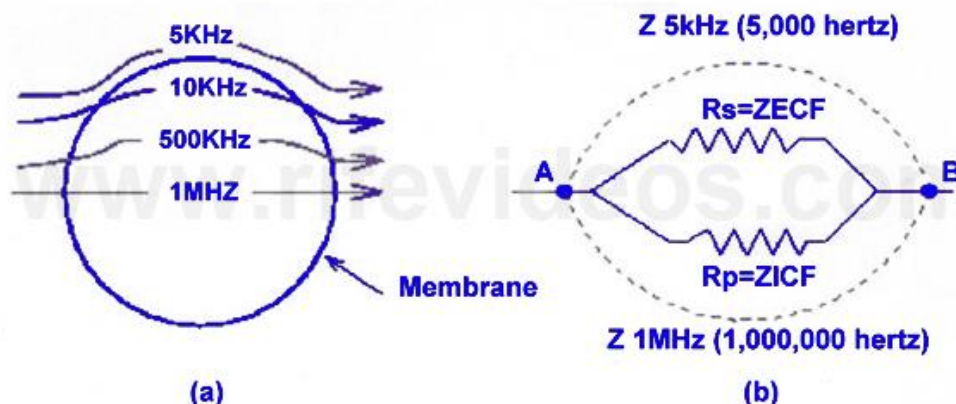
Dr. Rife knew a metal antenna, as well as a plasma tube, could be used to broadcast the frequencies. The real mistake John Crane and John Marsh made was not using an RF Carrier frequency of at least 1 MHz (1 million Hertz) or higher. The 1936 Rife Ray #5 or Beam Ray Clinical machine which was built and sold to doctors used an RF Carrier frequency in the 3 to 4 MHz range. As stated before; there is a balance of power that is needed. Also, all of the "Body Impedance" testing shows that low frequencies, less than 1 million Hertz, cannot penetrate the cell where many pathogenic organisms are found. Most of the frequencies used by many people are almost all below 50,000 Hertz. Without an RF Carrier frequency, there is no chance they can ever fully penetrate the human cell. Even if a square wave waveform is used with the frequencies the higher harmonics still do not reach, with sufficient power, 500,000 Hertz. Because of this fact, an RF Carrier frequency is still needed to get those frequencies, and their square wave harmonics, into the cells where they are needed.

The various "Body Impedance Analysis" reports and the "Absorption of RF (Radio Frequency) Radiation" report proves beyond a doubt that anyone who claims an RF Carrier frequency is not needed does not understand what they are talking about. Only an instrument that uses an RF Carrier frequency, like Dr. Rife used, can hope to produce the result his instruments did. People should not be misled into believing that an RF Carrier frequency, in the ranges used by Dr. Rife is **"detrimental, wasteful, potentially harmful or unnecessary."** Dr. Rife worked with frequencies from the audio range up to about 18 MHz (18 million Hertz). This range of frequencies is very low compared to the 300 million to 3000 million Hertz range. All of the scientific reports we have quoted from clearly show that there is no "Skin Effect" in any of the ranges Dr. Rife used especially below 20 MHz (20 million Hertz). Below is the link to the Harvard report which we recommend that you take the time to read. Below that link is another link to a "Body Impedance Analysis Physicians Overview" report which also confirms the information presented here.

[Harvard Report "Absorption of RF Radiation" link](#)  
["Bioimpedance monitoring for physicians: an overview" link](#)

All of the reports we have read from confirm that frequencies will pass through human skin into the tissues of the body, using electrodes, as long as the proper methods are used.

Figure 4.4: Path of the current through a cell





There are limits to frequency penetration depending on whether a low frequency (5,000 Hertz) is used or a high frequency (1MHz or 1,000,000 Hertz) is used. The diagram at the bottom of the previous page (fig 4.4) shows this. These limits only apply to cell penetration. These reports show that low frequencies only go through the connective tissue where high frequencies can fully penetrate all of the cells of the body. The real question that should be considered is: What is the Cell Effect? The false concept that human or animal tissue is affected in the same manner as a metal wire only exists in the minds of those who have not read these scientific reports. The full scientific "Body Impedance Analysis" report, given below, with links to other reports is presented to give documented factual information on this subject to the reader about how high frequencies are needed for full cell penetration and the necessity of using an RF Carrier frequency with sufficient power to produce the desired results.

Because most of these types of reports are a little technical we will give a simple explanation at the end of each section, in blue color print, if one is needed. At the end of the report, at the bottom of this page, we will give a complete summary of this report.

## The "Bio-Electrical Impedance Analysis" Report

Bio-electrical impedancemetry or Bio-electrical Impedance Analysis (B.I.A.) initiated in France by A.L. THOMASSET in 1962 today forms part of the arsenal of the means of exploration of biological tissues. Already widely diffused in the USA and the Anglo-Saxon countries, this method has a promising future. After a brief historical recapitulation, this work will present the basis on which the method was founded, followed by some examples illustrating its numerous applications in the medical field, as well as the perspectives opened up in biological research in general. In a word, Bio-electrical IMPEDANCEMETRY is a simple technique allowing easy measurement of body water and its extra and intracellular distribution in the organism.

Water is the main component of the human body where it represents 58% to 62%, of the body weight. In many pathological cases, this quantity varies. However, until now, because of the absence of simple means, it was not measured. Today, this measurement is at the disposal of all physicians thanks to Bio-Electrical Impedance Analysis: B.I.A. The first concerned are nephrologists for the monitoring of hemodialysis and nutritionists. But many other physicians are concerned by this work, as for example those in medical and surgical intensive care, those in units for the severely burned, cardiologists and those involved in metabolic disorders. Moving away from such specialties, other physicians and researchers in sports medicine, occupational medicine, thermal medicine, and of course in physiology and biology will find in this work many arguments allowing them to develop their activities.

## Historical Background

It was by studying the electrical activity of the brain by EEG that A.L. Thomasset in Lyon from 1955 to 1960 observed that the differences of potential could be similar to the law of Ohm and comply to the formula:  $U = R \cdot I$ . This idea led the author to look for the value of  $R$ , the electrical resistance of the brain tissue, then step by step to measure that of the whole body. For this, the body being both an ionic and non-homogeneous conductor, it was necessary to use an alternating current (AC) and not a direct current (DC). Because of this, the resistance studied took the name of impedance, a value expressed by the symbol  $Z$ . The equality  $U = R \cdot I$  is therefore written  $U = Z \cdot I$  i.e.  $Z = U/I$ ,  $U$  being the difference of potential,  $I$  the intensity of the measurement current. Then, if we use for the measurement a current of constant intensity  $I$  the potential in volts that is collected between two electrodes is equivalent to  $Z$  multiplied by this constant  $U = Z \cdot I$  and is representative of the impedance of the conductor. None-the-less, this measurement should be performed in certain precise conditions that we shall examine later.

Now as from the beginning of the study most of these conditions were fulfilled, as the measurements were systematically recorded in the morning, between 8 and 9 am, in a medical department where men and women were hospitalized for various reasons, it allows us to confirm that the measurements were reproducible.

This reproducibility was the fundamental and determining quality without which the study could no longer be pursued. All the authors who had studied the problem before, since d' Arsonval, Cole and Curtis Barnett, to mention only a few, placed without success the un-moistened electrodes on the skin a capricious barrier for the current that needs only to be traversed by using moistened electrodes or needle-electrodes inserted under the skin to avoid this pitfall.

Given this, the meaning of the body impedance measurements was a simple game thanks to the work of the school of F.D. Moore at Harvard, while H.P. Schwann in Philadelphia, Ch. Eyraud and J. Lenoir [15] of the C.N.R.S. in Lyon validated the study scientifically.

In defense of physicians, it should be admitted that, until now, they had no simple means at their disposal to perform such a measurement. Today, this means is now available to them through electrical impedance measured by a method that we developed as from 1962 and experimented in various fields of physiology and medical practice.

We trust that the readers will find in this presentation the basic elements of the method as well as some examples of applications liable to throw light on their own observations.

***Explanation:** Alternating current (AC) is used for biological tissue not direct current (DC). Earlier experimenters were unable to read body impedance because they did not moisten the skin or insert needles. Today many-body impedance devices, which do not use needles, are used to determine if there are any blockages in the electrical flow in the body. Many of these instruments, such as the Bio-Meridian an FDA approved device, use a metal probe to access meridians of the body. The skin must be moistened at each meridian point in order to check the impedance. Defibrillators which are used to electrically shock the heart use a conductive jell in order to prevent burning of the skin, allowing the electrical current to enter the body. Moisture is the key to getting frequencies into the body without the use of needles.*

## Electrical impedance

The word impedance comes from the Latin impedire meaning to prevent, to stop from going on. In terms of electricity, impedance signifies the resistance of a conductor when an electric current passes. However, conventionally speaking, the term resistance refers to the obstacle to the direct current, and it is represented by the letter **R**.

The terms impedance refers to the obstacle to the alternating current and it is represented by the letter **Z**. Impedance **Z**, as resistance **R**, is expressed in ohms.

***Explanation:** Resistance refers to the obstacle of (DC) direct current. Impedance refers to the obstacle of (AC) alternating current.*

## Electrical conductivity

The electric conductivity of a conductor is its capacity to conduct the current. It is called conductance for a direct current (DC) and admittance for an alternating current (AC).

Conductance is equal to the inverse  $1/R$  of the resistance. Admittance is equal to the inverse  $1/Z$  of the impedance.

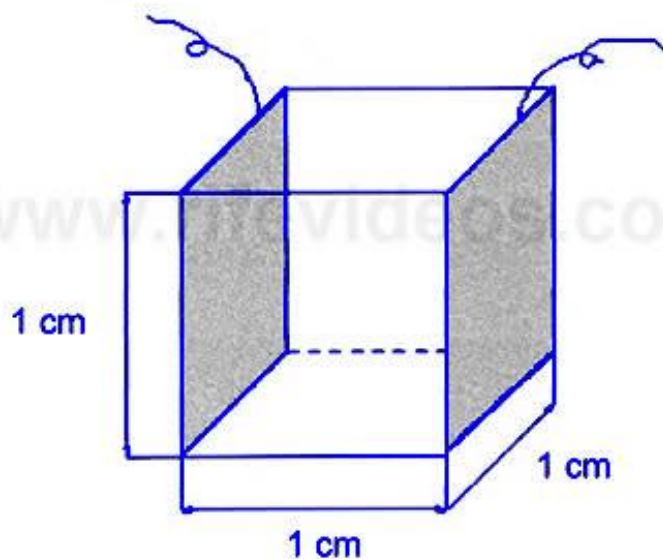
In both cases, conductivity is expressed in mho (the inverse of the word ohm). In practice, use has prevailed, and most often the designations resistance or impedance expressed in ohms are employed to define conductivity.

**Explanation:** *Skin and body tissue has resistance or impedance to electrical current and voltage which is measured in ohms. Resistors come in various ohms values which limit voltage and current. The overall average body electrical resistance or impedance, when wet, is about 400 to 600 ohms.*

## Resistivity of a conductor

This is the resistance that a sample of this conductor with a length and section equal to one unit opposes to an electric current passing through it between two electrodes each with a section equal to one unit and placed on two opposite faces of the volume thus defined of the sample to be measured.

**Figure 3.1: Determination of the resistivity**



**1 cm** Example: The resistivity of copper is the resistance of a cube of this metal measuring **1 cm** on each side, through which passes a current between two electrodes measuring  $1 \text{ cm}^2$  placed on sides **A** and **B** of this cube (fig 3.1).

Resistivity is conventionally expressed by the Greek letter  $\rho$ . It is measured by means of a direct current if we are dealing with an electric conductor such as iron or copper, and by means of an alternating current if it is an ionic conductor and furthermore non-homogeneous such as a biological tissue, but in this case resistivity varies with the frequency of the measurement current, and one should indicate the frequency of the current used in the following manner: **p5kHz or p1MHz**

**Explanation:** *Resistance depends on the material and frequency used. All human cells and tissue has impedance or resistance to electrical current such as frequencies from 5KHz (5,000 Hertz) to about 1MHz (1 million Hertz). Many tests have shown that the overall average resistance of skin and body tissue may drop as much as 50% with high frequencies of 1MHz or greater. This drop in cell resistance starts at about 10kHz (10,000 Hertz) and gradually decrease as the frequencies go higher to 1MHz. At 1MHz there is no cell resistance and the frequency fully penetrates through the cell.*



# Notion of the frequency of an electric current

A direct current (**DC**) has a null frequency. It passes through a conductor always in the same direction from the positive pole to the negative pole.

An alternating current (**AC**) is an oscillating current usually sinusoidal (a sine wave waveform) which passes through a conductor alternately in one direction then in the opposite direction, a certain number of times per second.

This number of times depends on the generator that produces it. It may vary from a few units (as is the case for the domestic current of 50 Hz (Hertz), or cycles per second, in France), to several million cycles per second. This number is called current frequency and is expressed **in cycles per second or in Hertz (Hz)**.

A current is said to be of low frequency (**LF**) when this frequency is below 50,000 Hertz, of (**MF**) medium frequency between 50,000 and 500,000 Hertz, and high frequency (**HF**) above 500,000 Hertz.

When studying body impedance the current used in (**LF**) low frequency is 5,000 Hertz or 5 kHz (kilohertz), and in (**HF**) high frequency 1,000,000 Hertz or 1 MHz (1 Megahertz).

***Explanation:** Direct current (DC) has a null frequency. This means the energy flow can stop in the body after a short period of time (as little as 3 minutes) because it is only going in one direction from the positive pole to the negative pole. Alternating current (AC) has no null frequency because it alternates back and forth from one pole or electrode to the other pole or electrode.*

## Why use an alternating current (AC) to measure the impedance of a biological tissue?

Essentially for two reasons: Because a biological tissue is **an ionic conductor**: it is known that electrical conduction in a material occurs through charge carriers, which may be electrons, such as is the case for metals; or free ions in suspension in solutions, as is the case for biological tissues.

If a **direct current (DC)** is passed through an ionized solution, the well-known phenomenon of **polarization occurs**, i.e. very rapidly at the level of each electrode a double layer of ions is deposited which acts as an insulator and prevents the current from passing. Therefore, a **direct current (DC)** cannot be used to measure the resistance of such a conductor.

Because it is a **heterogeneous conductor**: i.e. it is composed of both **resistive elements** and **capacitive elements** diversely associated. Whereas the resistive elements allow the alternating current to pass whatever its frequency, the capacitive elements allow the **alternating current (AC)** to pass only if it has **a high frequency**.

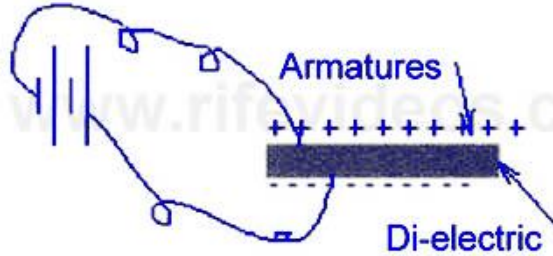
Such that the opposition encountered by electricity to circulate in a biological conductor must necessarily be studied by means of an **alternating current (AC)**. Thus it is indeed an impedance.

***Explanation:** Direct current known as (DC) current travels in only one direction. Direct current cannot be used to measure the resistance of the human body. DC current causes ions to build up eventually causing polarization. This can cause heating in tissue if one is not careful. Alternating current (AC) is safer to use in biological tissue and will allow the passage of high frequencies through the body tissue including the bone.*

# Capacitive element

This is an element able to store electrostatic charges. A condenser with its two armatures (fig 3.2) separated by an insulator (Di-electric) is a **capacitive element**.

**Figure 3.2: Condenser**



In biological tissues the cellular content represents one of these armatures; the interstitial fluid represents the other. They are separated by the **cell membrane** which plays the role of **an insulator or di-electric**. In common language in electricity to designate a condenser the term capacity is often used, the object being designated following its function. This is an improper use of language; in fact, the capacity **C<sub>p</sub>** represents the ability of a conductor to receive a charge **Q**.

**Explanation:** *The body can receive an electrical charge such as a frequency.*

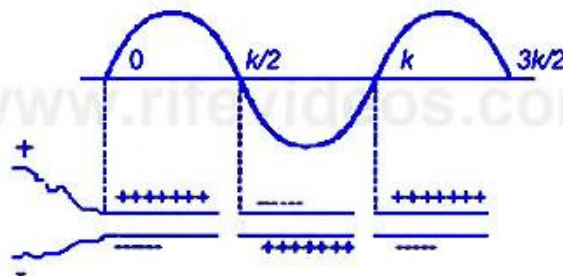
# Capacity and impedance of a condenser

This capacity is evaluated in farads and depends on the form, the dimensions of the di-electric as well as the nature of the di-electric.

A condenser (capacitive element) interrupts the circulation of the direct current, for as soon as its armatures are charged, one positively, the other negatively, the current no longer passes.

On the other hand, an alternating current appears to cross the obstacle represented by the di-electric of the condenser. In reality, the condenser acts on the current by retarding it by a half-period (90° or  $k/2$ ) (fig 3.3).

**Figure 3.3: Behavior of a condenser in alternative current.**



The condenser impedance ( $1/C2kf$ ) is all the higher as the frequency is lower and reciprocally it tends towards zero when the current frequency tends to infinity. It may be considered that the condenser conducts in a normal fashion the alternating current, which is true in practice if not in theory.

These notions concerning the properties of condensers show why a low frequency current does not cross the membranes, whereas they are crossed all the more easily as the current frequency is high. A condenser can accumulate a certain electric charge  $Q$  whose value is given by the formula:

$$Q = C_p \times U, \text{ where } U \text{ is the difference of potential between the armatures, Such that: } C_p = Q/U.$$

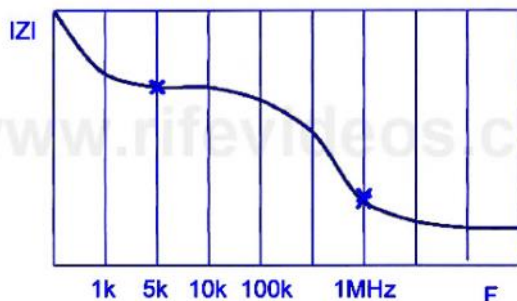
A difference of potential  $U$  represents the difference of concentration of the charge carried between the two poles of a resistance conductor  $R$  when this conductor is traversed by a current of intensity  $I$ . (Ohm's law  $U = R \times I$ )

**Explanation:** The lower the frequency (1 Hertz to 100,000 Hertz) the more difficulty the frequency will have in penetrating into the body. Moisture is critical for the use of low frequencies. High frequencies (1 million Hertz or 1MHz) will penetrate the body with less resistance and will fully penetrate through the cell membrane. Moisture is still critical for the passage of high frequencies and it should be used with electrodes.

## Impedance variation of a biological tissue according to the frequency of the measurement current

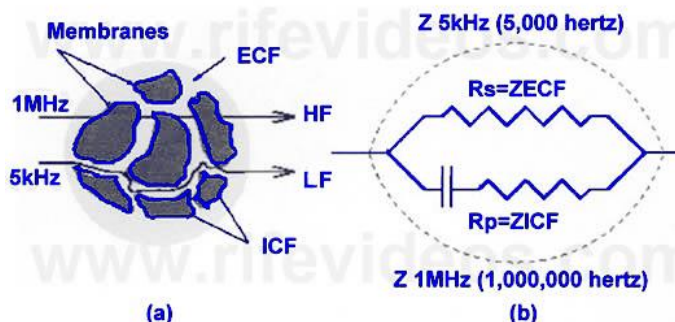
When one studies the impedance  $Z$  of a biological conductor it may be observed that it varies according to the frequency of the measurement current. **The higher the frequency** the more easily the current passes and consequently, **the lower the impedance**. If these variations are recorded, we obtain a curve whose general aspect is represented in **figure 4.1**.

Figure 4.1: Evolution of the modulus of impedance  $|Z|$  with respect to the frequency  $F$



It is the aspect that is taken on by the variations of the impedance modulus of a biological tissue as represented schematically in **figure 4.2** where cells can be seen surrounded by their membranes enveloped in the extra-cellular fluid as well as the lines indicating the **(LF)** low frequency (5,000 Hertz) and **(HF)** high frequency (1,000,000 Hertz or 1MHz) current.

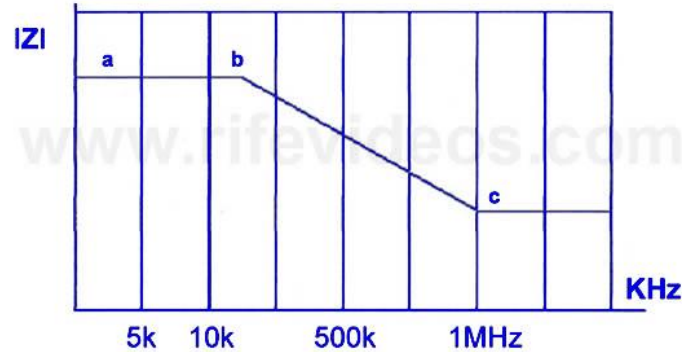
Figure 4.2: Analogy between a biological tissue and a filtering network





It may be observed that there is an analogy between **figure 4.2a** and **figure 4.2b** which shows an electric circuit involving the association of a series resistance (**Rs**) with a capacitive element (**Cp**) and another resistance (**Rp**) in parallel. The impedance curve of this classical circuit is represented in **figure 4.3** with respect to the frequency. This circuit is called an electronic filter as, depending on the value of the capacity **C**, it does not allow the electric currents to pass except above a given frequency.

**Figure 4.3:** Evolution of the impedance modulus **|Z|** with respect to the frequency for the circuit of figure 4.2

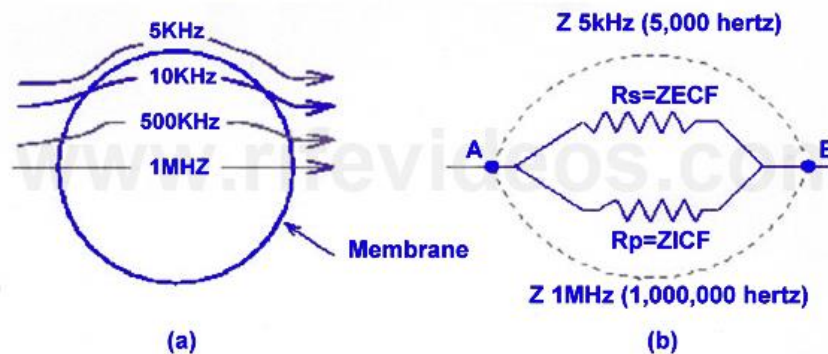


In fact, in the biological tissue the membranes act as a di-electric or an insulator separating two conducting media, the extra-cellular fluid (**ECF=Rs**) and the intracellular fluid (**ICF=Rp**) which fulfill the role of armatures of the biological condenser. It may be added that the membranes are not a good insulator, and that the condenser they make up is a leakage condenser.

To circulate between **A** and **B** (**Fig 4.2**) a low frequency current 10 KHz (10,000 Hertz) can only take the path **Rs**, i.e. must pass between the cells. The difficulty encountered is relatively great and the impedance corresponds to the part **a** and **b** of **figure 4.3**.

Between 10 kHz (10,000 Hertz) and 500 kHz (500,000 Hertz) the current takes more and more the path (**C+Rp**) of **figure 4.2** corresponding to the part **b** and **c** of **figures 4.1** and **4.3**. i.e. it penetrates more and more easily into the cells (**Fig.4.4b**).

**Figure 4.4:** Path of the current through a cell



When the frequency is high enough the capacitive effect **Cp** (**Fig. 4.2b**) corresponding to the cellular membranes is cancelled and the current passing between **A** and **B** takes the two resistive pathways **Rs** and **Rp** (**fig. 4.4b**) such that at the moment we are dealing with a system to which we may apply the formula of Kirchhoff:

$$\frac{1}{Z_{1MHz}} = \frac{1}{Z_{5kHz}} + \frac{1}{R_p} = \frac{1}{Z_{ECF}} + \frac{1}{Z_{ICF}}$$

This formula will be used later, when estimating the cellular content. In practice, we have indeed chosen the frequency 5 kilo-hertz (5,000 Hertz or cycles per second) to represent the low frequencies (**LF**) and 1MHz (1,000,000 Hertz or cycles per second) to represent the high frequencies (**HF**).

The frequency 5 KHz (5,000 Hertz) was chosen because it represents the mean between 1 KHz (1,000 Hertz) and 10 KHz (10,000 Hertz), i.e. that at 1 KHz (1,000 Hertz) there still subsists a slight polarization of the electrodes (**Fig. 4.1**) and that at 10 KHz (10,000 Hertz) the current begins to enter into the cells (**Fig. 4,4a**).

The frequency 1 MHz (1,000,000 Hertz) was adopted as at this frequency the capacitive effect of the membranes is practically null. Further, it is difficult to control the current beyond this frequency without parasiting the conductors, either the equipment or the body to be measured, the errors liable to occur being greater than the precision sought for.

**Explanation:** *The higher the frequency the less the resistance. At about 1MHz (1 million cycles per second or Hertz) there is less resistance in the biological tissue of the body. Low frequencies below about 50,000 Hertz mostly travel through the connective tissue of the body. At about 10,000 Hertz frequencies begin to penetrate the outside layers of the cell. This scale gradually goes up so that at about 100,000 Hertz penetration into the cell is very noticeable. From 100,000 Hertz to 1,000,000 Hertz (1MHz or 1 Megahertz or 1 million Hertz) penetration increases into the cell and full penetration is achieved by 1MHz. This understanding of how frequencies work in the body explains why an RF Carrier frequency of at least 1MHz (1 million Hertz) should be used. An RF Carrier frequency of 1,000,000 Hertz will have a full body and cell penetration.*

*It should be understood that all the tests done for this report were done with a sine wave waveform. A square wave waveform creates higher frequency harmonics that may have some penetration into the cell depending on how high the harmonics go up in the frequency range. Theoretically, a square wave produces infinite harmonics but those harmonics lose power with each additional harmonic produced. Therefore depending on how much power is in the primary frequency (10,000 Hertz as an example) the power drops in each harmonic so that within about 12 harmonics the power loss is so great it is almost un-measurable.*

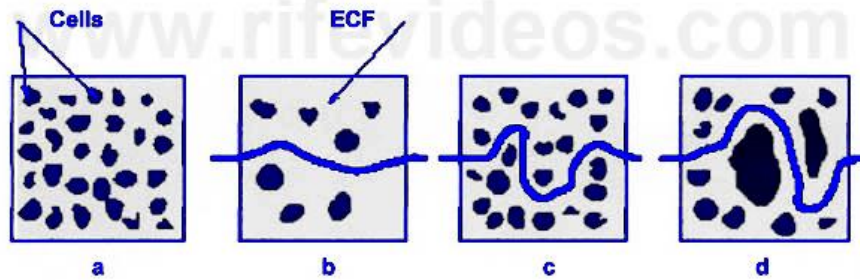
*For this reason, a frequency of 10,000 Hertz, without the used of an RF Carrier frequency, is limited to a maximum power level of only about 1/10th (0.10) to 2/10ths (0.20) of 1 watt because the user cannot handle the physical intensity of the frequency. This means the power level will be so low in the square wave harmonics that there will be very little cell wall penetration. If an RF Carrier frequency of 1MHz or higher is used then there will be full cell penetration and the power level can be increased up to about 15 to 20 watts without the frequency being felt by the user. For this reason an RF Carrier frequency should be used for full cell penetration with sufficient power to produce positive results.*

## Resistivity of a biological tissue

The resistivity of tissues varies according to the frequency of the measurement current.

**In LF** (low frequency) the cells that are concerned in a tissue volume unit act as insulators, enclosed in a liquid conductor of resistivity **Pe**. (**Fig. 4.5a**). A current with a **weak LF (low frequency) must necessarily pass between them**. The more the cells are packed together the greater the resistance (here the resistivity PLF since we are measuring a unit of tissue volume), and conversely, the fewer the cells in this unit of volume, the more easily the current can pass and in this case **PLF** is close to **Pe**: (**fig. 4.5b**).

Figure 4.5: A low frequency current (5,000 hertz) across a biological tissue



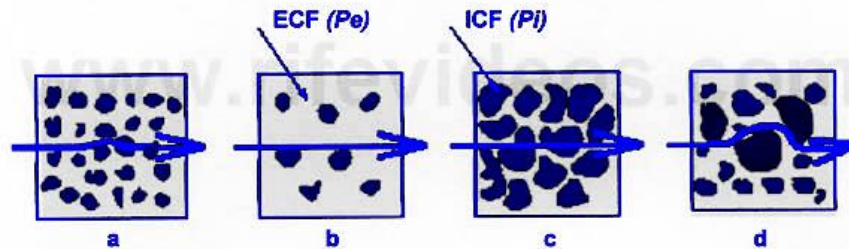
It can therefore be understood that **PLF** of a tissue is a function of **Pe** and  $\gamma$  the latter factor being a factor of form. It is the form that should be taken on by the electric current to pass through the tissue. (Fig. 4.5c).

Normally the tissue of each organ has a texture, i.e. a constant factor  $\gamma$ , and if we accept that **Pe** of the plasma is constant, the mean body resistivity **PLF** of all tissues taken together is constant in the normal state.

It is the same in all subjects in good health, except, as will be seen later, in lean or obese subjects where non-conductive fatty inclusions are more or less great in relation to the normal state (Fig.4.5d) and influence the tortuosity of the electric field in **HF** (high frequency) as in **LF** (low frequency).

In **HF** (high frequency), the measurement current at 1MHz (1,000,000 Hertz), cancels the capacitive effect of the cellular membranes such that to pass through a unit of tissue volume the current uses both **ECF** and **ICF**.

Figure 4.6: A high frequency current across a biological tissue



The resistivity is therefore a function of **Pe** (**ECF**) and **Pi** (**ICF**) according to a proportion that depends on the number of cells in the unit of tissue volume measured (Fig 4.6a).

In the case of extra-cellular edema there are fewer cells in the unit of tissue volume measured, and the influence of **Pe** predominates over **Pi** in relation to the normal state (Fig. 4.6b).

More rarely, we may be faced with a cellular edema, in this case the influence of **Pi** predominates in relation to the normal state. Such a case is often encountered in renal pathology (Fig. 4.6c).

It can be seen from these examples that **PHF** depends more on **Pe** and **Pi** than on the factor  $\gamma$ . However, in the case of leanness or obesity this factor  $\gamma$  plays as much a role as in **LF** (low frequency), diminishing or augmenting **PHF** (Fig. 4.6d).

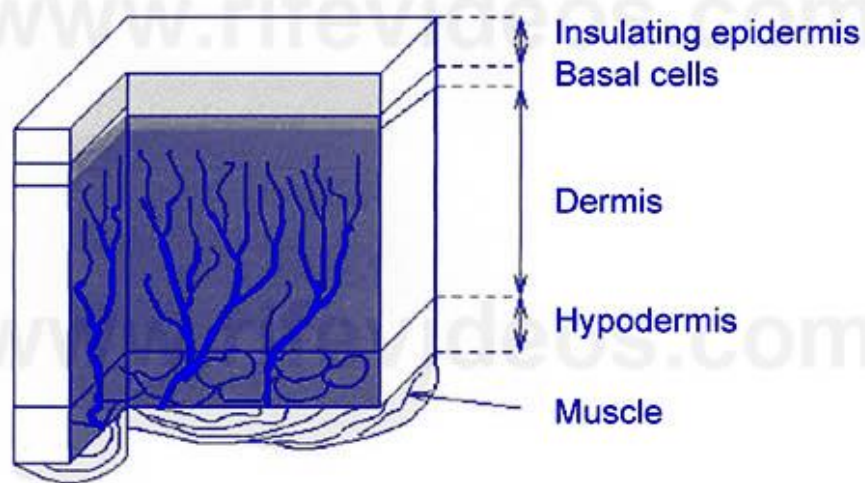


**Explanation:** Organ tissues are of different density. The denser the tissue the greater the resistance to low frequencies. The illustrations in this report show that low frequencies go around the cells and high frequencies go through the cells. This is due to the fact that there is no cell wall resistance when using high frequencies. This again shows the benefit of using an RF carrier frequency of at least 1 million Hertz (1,000,000 Hertz) when using low audio frequencies.

## Description

The skin was the obstacle to be surmounted before approaching the body composition by impedancemetry. Although directly accessible to the physician the skin is a relatively little known organ. Schematically, it is made up of three parts: the epidermis, the dermis and the hypodermis.

**Figure 4.7:** Schematic organization of the skin



**The epidermis** (skin) consists of several superimposed layers: basal cells of the deep layers, with a nucleus, migrate upwards to form a second rather thick granular layer, well delimited, above which there is a third layer which is the corneum, made up of non-nucleated cells, overlapping each other, fused together in depth and open to the external environment, in the same way as microscopic scales. These three layers are pierced by more or less numerous canals whose role is to evacuate perspiration and hairs whose *raison d'être* is poorly understood.

The dermis underlying the epidermis is the nourishing part of the skin. It contains the blood capillaries bathed in a network of collagen fibers. This layer lies on the hypodermis.

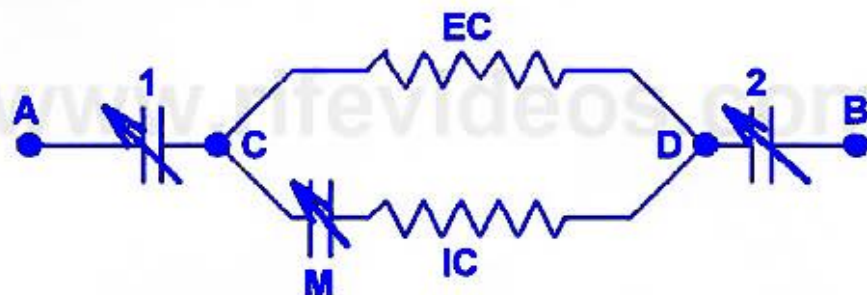
The hypodermis is composed of fatty lobules between which vessels nourishing the dermis work their way. Its thickness is variable, greater in women than in men. It is the hypodermis that makes up the coating an important part of the Fatty Mass, and it is the double thickness of the hypodermis that is measured by the method of skin folds.

Whereas the anatomical structure of the skin is well known, its physiology still hides uncertainties, but it may be said without contest that the epidermis alone ensure 90% of the functions of the skin. Besides the role of barrier separating the external from the internal environment and serving as a container for the fluids, the epidermis prevents the penetration into the organism of noxious products and bacteria, at the same time ensuring the evaporation of water and contributing to the body heat regulation.

## Skin impedance

There is little data available on this subject. It is only known that the skin is an insulator for weak currents of low frequency (5,000 Hertz), and that it can be easily passed through by the same currents but at high frequency (1,000,000 Hertz or 1MHz).

**Figure 4.8: Equivalent electric diagram for the skin**



This property is due to the corneal layer of the epidermis, it varies according to the anatomical regions and according to the time of day for the same region. The epidermis acts as a leakage dielectric. With the electrodes placed on its surface on the one hand and the sub-epidermal conducting layers on the other hand it forms two variable condensers, as shown in fig. 4.8 which illustrates that a weak LF (5,000 Hertz) current cannot circulate between A and B, as on this trajectory there are two obstacles 1 and 2 representing the epidermis.

On the other hand, if the same low frequency (5,000 Hertz) current enters by means of moistened electrodes or needles placed under the skin in C and D, it can then follow the pathway E-C, but it cannot take the pathway I-C interrupted by the condenser M created by the cellular membranes. To explore the pathway E-C and I-C, the measurement current should necessarily have a high frequency (1,000,000 Hertz or 1MHz).

**Explanation and Summary of this BIA report:** *The skin is a good insulator and it is difficult for low frequencies to pass through it without needles or moisture. The skin does have moisture in it. Some people have very moist skin and others have very dry skin. It takes a higher voltage to penetrate dry skin than wet skin. Moisture is the determining factor for penetration through the skin into the body at low frequencies (5,000 Hertz). Once the frequency enters the body the determining factor of penetration into the cell is the frequency range used. This report shows that low frequencies go around the cells, through the connective tissue, while high frequencies penetrate both the cells, connective tissue, and bones. A high RF Carrier frequency of at least 1MHz should always be used with low frequencies.*

*Bio-electrical Impedancemetry or Bio-electrical impedance Analysis tests have shown that there is no metal "Skin Effect" with human tissue. They also show that a carrier frequency of at least 1 million Hertz (1MHz) is necessary to fully penetrate the cells of the body when using low frequencies. Audio frequencies are generally considered to be below 50,000 Hertz. These frequencies need an RF Carrier frequency in order to penetrate the cell wall.*

*All of the Bio-electrical Impedancemetry Analysis scientific tests which have been done over the past 50 years prove that the "Skin Effect" of a metal conductor does not apply to human or animal skin. They also show that the frequencies that Dr. Rife found for the various disease organisms can be used with electrodes such as metal hand-cylinders and footplates. These should be used with water for the greatest conductivity. Any cloth covers should very wet, but not dripping wet, and this will almost be like immersing the skin in water.*

**CHAPTER SUMMARY:** These scientific reports show that frequencies within Dr. Rife's frequency range do not travel on the surface of the human skin as people promoting the incorrect "Skin Effect" myth have claimed. We find from these reports that even at the 300 to 3000 MHz range the frequencies will penetrate into more deeply situated tissues especially desirable for therapeutic applications. Last of all we find that frequencies between 70 and 100 MHz (70 to 100 million Hertz) are of maximum absorption in humans. These scientific reports completely dispel the "Skin Effect" myth that human tissue is the same as a metal conductor.

Dr. Rife worked with frequencies from the audio range up to about 20 MHz (20 million Hertz). This range of frequencies is very low compared to the 70 to 3000 MHz range. These reports show that there is no "Skin Effect" in any of these ranges especially below 100 MHz. These reports clearly show that the "Skin Effect" which is being promoted and taught by many connected to Rife technology is not correct. The real question that should be considered is: What is the Cell Effect? These scientific reports confirm that frequencies do pass through the human skin into the tissue of the body, using electrodes, as long as the proper methods are used. We also find that there is no "Skin Effect" with ray tubes within Dr. Rife's frequency range. Hopefully this information we have given will help overcome all the false and incorrect information that is being promoted as the metal "Skin Effect" for human tissue.

In chapter 18, we will discuss the scientific laws of "Conduction" and "Induction" and how these two laws pertain to Rife's technology.

Here are some additional links to "Body Impedance" reports that document and confirm what has been discussed in this chapter.

<https://www.cdc.gov/niosh/docs/98-131/pdfs/98-131.pdf>

<https://sites.google.com/site/antoniivorra/home/electrical-bioimpedance>

<https://arxiv.org/ftp/arxiv/papers/1805/1805.05200.pdf>

<https://pdfs.semanticscholar.org/f3c5/539170aad1881377d9f5e5ed96fe38e07566.pdf>

<https://dokumen.tips/documents/iec-479-1.html>

<https://www.slideshare.net/esregroup/chien-lee-meliopoulos>

[IEC-479-1.pdf](#)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2763825/pdf/eplasty09e44.pdf>

<https://core.ac.uk/download/pdf/10900348.pdf>



## Chapter 18

### Understanding Conduction, Induction and RF frequencies



### Conduction

The information in this chapter is directly connected to Chapter 17 and Chapter 1. In the last chapter, we showed that the incorrect understanding of the “Skin Effect” is scientifically false with frequencies for 1 MHz up to at least the 3000 MHz range. We also read from the scientific reports that frequencies will go through the skin deep into the tissue of the body in all the frequency ranges that Dr. Rife used. With these facts having been proven, we can now understand how “Conduction” and “Induction” work when using Dr. Rife’s frequencies. Dr. Rife and his two 1950’s business partners, John Crane and John Marsh, used two methods of delivering frequencies. The first is the direct “Conduction” or contact method which used metal hand-held electrodes with a positive and negative. The second is induced “Induction” which used an RF plasma ray tube. We will discuss the “Conduction” method first. From the encyclopedia, we obtain the definition of conduction. We quote:

**CONDUCTION DEFINITION:** *“Conduction in science is when energy moves from one place to another place. Heat and electricity are two kinds of energy that move by conduction. Something that energy can easily move through is a good conductor. Metal is a good conductor. An insulator is a bad conductor. Energy cannot move quickly through an insulator. Plastics are one kind of insulator.”*

In easy to understand terms “Conduction” is the movement of energy or electricity through a good conductor such as metal. All electromagnetic frequencies are electricity. You cannot have one without the other. Some people state that electromagnetic frequencies are just “Plain old electricity.” They do not understand the science behind electromagnetic frequencies. All frequencies are electrical but it is the cycles per second that change in frequencies. Whether you use 1 Hertz or 1,000,000 Hertz they are all electromagnetic frequencies that use electricity. So the use of the words “Plain old electricity” is incorrect when it comes to understanding the science of electromagnetic frequencies.

We learn from the “Conduction” definition that plastic or even glass is a poor conductor and acts as an insulator. The reader needs to keep in mind the fact that glass and plastic are poor conductors when using the “Conduction” or contact method of delivering frequencies through a positive and a negative connection using metal hand-cylinders or electrodes. For this reason, an electrical wire has rubber or flexible plastic coatings to keep people from being electrocuted. If the “Skin Effect” worked like some people claim then no one would ever be electrocuted because the electrical frequency of 120 volts at 60 Hertz (60 Hertz is the frequency of our wall sockets) would never penetrate more than a fraction of an inch and kill someone. When we think of “Conduction” and metal hand-cylinders or electrodes we should think of a positive and a negative.

Everyone understands that if you touch both the positive and the negative at the same time you will receive an electrical shock. This is because your body is directly coupled and completes the circuit by touching both the positive and negative at the same time. This is "Conduction" in plain and simple terms. The same thing will happen if you touch both wires coming out of an electrical socket. If they are bare then the body completes the circuit and 120 volts and amps will enter your body which may kill you. The fact that electricity, when used with too much current, can kill demonstrates that frequencies do penetrate the skin deep into biological tissue. So the "Conduction" or contact method using a metal conductor is a good method of getting electrical frequencies into biological tissue but the current must be limited so that it is safe to use. The majority of the people who purchase frequency generators use some kind of hand-held metal or stick-on electrodes. In this chapter to describe "Conduction", we may say metal electrodes or metal hand-cylinders so you will understand what we are talking about.

## **Induction**

Now we come to the second method of delivering electromagnetic frequencies called induced "Induction" or the non-contact method. This method of delivering frequencies can use a plasma ray tube and requires "Induction" because you are using an insulator such as glass. When we describe "Induction" we may say plasma ray tube. From the encyclopedia, we obtain the definition of "Induction." We quote:

**INDUCTION DEFINITION:** *"Electromagnetic induction is the production of a potential difference (voltage) across a conductor when it is exposed to a varying magnetic field. In electrical engineering, two conductors are referred to as mutual-inductively coupled or magnetically coupled when they are configured such that change in current flow through one wire induces a voltage across the ends of the other wire through electromagnetic induction. The amount of inductive coupling between two conductors is measured by their mutual inductance.*

*Electromagnetic induction is proportional to the intensity of the current and voltage in the conductor which produces the fields and to the frequency. The higher the frequency the more intense the induction effect. The coupling between two wires can be increased by winding them into coils and placing them close together on a common axis, so the magnetic field of one coil passes through the other coil. The two coils may be physically contained in a single unit, as in the primary and secondary sides of a transformer, or may be separated."*

In simple terms, electrical frequencies can go through plastic or glass by "Induction" if the proper method is used. From the above definition, we learn that the higher the frequency the more intense the "Induction" effect. We also learn conductors such as two insulated wires need to be close together in order for the electromagnetic "Induction" to work with full transfer of electromagnetic energy. The fact that the conductors must be close together when using this method is very important for the transfer of the frequencies.

There are some companies that use a single ray tube and others that use two hand-held plasma ray tubes. Those that use a single ray tube use a single circuit for the ray tube and the frequencies enter the body by "Induction" because the frequencies are broadcast through the air like a radio station. Those that use two hand-held ray tubes generally use two separate circuits, one for each ray tube. They pulse the frequencies back and forth between the two hand-held ray tubes. When one ray tube is on the other ray tube is off. This alternating back and forth between the two hand-held ray tubes creates a very intense electromagnetic field. By doing this the hand-held ray tubes become highly conductive and work on about 50% "Conduction" and 50% "Induction" where a standard single ray tube will only work on about 9% "Conduction" and 91% "Induction" when held in the hands of the user. By using this method of alternating the frequencies back and forth between the two hand-held ray tubes the person receives the frequencies by both "Conduction" or contact and "Induction" or non-contact. By the

methods of “Conduction” and “Induction”, the frequencies enter the body. Dr. Rife’s original 1930’s/1950’s RF plasma ray tube instruments only used “Induction” because the user did not hold the ray tube in their hands with any direct contact. To learn more about how metal hand cylinders and hand-held ray tubes work click on the link below.

[Metal Hand Cylinders or Hand Held Ray Tubes.](#)

Dr. Rife used this “Induction” method with his powerful 50 to 500-watt ray tube instruments. But the user must understand that they are not directly coupled to the circuit. This is not how a single ray tube circuit works. In order to directly couple with the circuit and receive 100% of the energy, you must have a direct physical connection with metal conductors that work as a positive and negative. Ray tubes do not work on this scientific principle. Though there is a small amount of coupling to the body, but the 50 to 500-watts will not directly couple to the body like a metal positive and a negative electrode does. In the scientific paper [“Absorption of RF Radiation”](#) which was put out by Harvard education courses we find it is very difficult to determine how much energy actually couples to the body by the non-contact “Induction” method. They state the following. We quote:

**HARVARD:** *“The magnetic permeability of most tissues is practically equal to that of free space, meaning that tissue is essentially nonmagnetic. Interactions at high radio frequencies occur through the electric field, which therefore describes the exposure field interactions with the tissue. Frequency characteristics, modulation characteristics, and modulation frequency of the external field are also important in determining interactions with tissue.*

*A radio wave in space is characterized by its frequency, intensity of electric and magnetic fields, direction, and polarization. The interaction of external radio waves with biological bodies produces internal electric and magnetic fields, which can be calculated by solving Maxwell's equations for the given boundary conditions. This becomes a complex problem, however, because biological bodies are heterogeneous and complex in shape, making an exact solution impossible. In addition, the intensity of the internal field is greatly dependent on the boundary conditions under which the external field is applied. The frequency, intensity, and polarization of the field, in addition to the size, shape, dielectric properties of the exposed body, the spatial configuration of the exposure source and the body, and the presence of other objects in the vicinity play a big role in the effect the radio waves will have on the body. For this reason, the internal field created in a mouse under a given external field will be much different than the internal field created in a man under the same external field.*

*We are interested in how external fields couple with biological bodies to create internal fields. The field strength inside a cell nucleus, for example, would be needed to judge any effects on genetic information. Likewise, the field strength across the cell membrane would be needed to evaluate possible membrane excitation phenomena. So we must first be able to figure out the field strength inside the human body and then how this is related to membrane potentials etc. Internal field strength increases proportionally with the external field strength, but the internal field is not necessarily uniform even if the incident field is uniform. Exact field strength is dependent on local geometry: in a man standing in a field perpendicular to the ground, the average current density in the legs is greater than in the trunk, by a factor that corresponds to the ratio of the cross sectional areas of the trunk and leg. Absorbed energy depends on the size of the body, curvature of its surface, ratio of body size to wavelength, and the source characteristics.” [\(Absorption of RF Radiation, Harvard report\).](#)*

From this quote, we can see that it is very difficult to know exactly how much RF energy couples to the body with the non-contact “Induction” method. Another thing that is pointed out is the body is non-magnetic. Dr. Rife started with 8 to 10-watts and finally built his Rife Ray #3 instrument that put out about 50-watts. That instrument was used in the 1934 clinic. These instruments were tested for penetration so it is apparent that less than 50-watts using a ray tube would not be sufficient power to devital-



ize microorganisms deep into the tissues of the body. Dr. Rife's Rife Ray #4 was built in 1935 and could output 500-watts. The Rife Ray #5 was built in 1936 and it was reduced back to about 75-watts output and was the only instrument used by doctors or individuals. This indicates that 50 to 75-watts is enough power to devitalize the microorganisms in the body of anyone that was treated with the instrument. With 50-watts as our minimum measuring stick, a person would not expect an RF ray tube instrument that did not output at least 50-watts to be powerful enough to do what Dr. Rife's instruments were capable of doing. If you measure how much energy couples to the body through direct contact from holding a single ray tube in your hands it will be about 3% if no grounding plate is used.

We decided to do a few tests. A single ray tube like the one Dr. Rife used was tested first. We found that with a single ray tube the person had to be grounded in order to have the greatest amount of power transfer through the "Conduction" contact method. Using an oscilloscope a variable 20 to 103-watt circuit was measured. The voltage to the ray tube was 1370 volts at 85-watts. Several readings were taken and averaged. When the ray tube was held in both hands the average voltage dropped from 1370 volts down to 1250 volts. This was an 8.76% drop. This 8.76% voltage drop represents the minimum amount of power or energy which coupled to the body of the user through "Conduction." This 8.76 % represents 7.44 watts. So from this test, we get the minimum amount of power that will couple to the body through direct contact with the ray tube.

What must be understood is the insulating less conductive properties of the glass that the ray tube is made of will only allow approximately 9% of the energy to couple or enter the body through direct contact with the skin. The remaining about 91% of the power output by the ray tube is only partially absorbed into the body through the "Induction" non-contact method which is determined and governed by the "Inverse Square Law" of how close the ray tube is to the body of the user. We will discuss this scientific law later in this chapter.

There are a few different instruments that use hand-held ray tubes and they claim their power ranges are from about 2-watts too 30-watts? or higher. As mentioned before the two hand-held ray tube method works differently than the single ray tube method. They are constantly reversing polarity over and over again. This results in an intense magnetic field between them as opposed to a single ray tube. A few of these hand-held ray tube instruments were measured. The tests were done using an oscilloscope and they verify that this method of reversing polarity over and over significantly increases the energy coupling through the "Conduction" or direct contact with the two glass hand-held ray tubes.

For the greatest conductivity, every hand-held ray tube had wet terry cloth covers put on them. The actual circuit voltage was first measured at the circuit before the ray tubes. The voltage was then measured by touching the oscilloscope probes to the surface of the ray tubes. One probe was placed on each ray tube. By doing this we were able to measure how much the power dropped due to the insulating properties of the glass. This power drop showed how much power or voltage was on the surface of the glass conductor or ray tubes. Since it is impossible to receive more power than is on the surface of a conductor then the voltage on the surface of the ray tube determines how much power could actually couple to the body through "Conduction" or direct contact with the hand-held ray tubes.

The combined voltage to the ray tubes was measured which varied due to the different power output of the instruments. The voltage at the circuits varied in their range from about 1500 volts to 10,000 volts. When the voltage on the surface of the ray tubes was measured, the voltage had dropped by an average of about 53%. This test showed that the glass was an insulator and dropped the voltage by about 53%. So from this test, we find that about 47% of the energy or watts that are put into hand-held ray tubes will couple to the body by "Conduction" or direct contact with the ray tubes. This 47% represents the power that is coupled to the body by "Conduction" using hand-held ray tubes. This test gives us the maximum amount of energy that could couple through "Conduction" to the body of the user when holding hand-held ray tubes.

The tests also showed how well the reversing polarity method works. If you compare both methods without using a ground plate then you only have about 3% coupling with a single ray tube compared to about 47% coupling with hand-held ray tubes. That is almost 6 times more power coupling through "Conduction" than a single ray tube if no ground plate is used.

These tests showed that the power transfer ratio for hand-held ray tubes is about 47% through "Conduction" or direct contact with the skin of the user and 53% through "Induction" or the non-contact method governed by the "Inverse Square Law." If you compare this 47% "Conduction" or energy transfer to an instrument that only uses metal hand-cylinders then this is how they would compare. A metal hand-cylinder instrument has about 53% more power that will couple to the body through "Conduction" than a two hand-held ray tube instrument. The fact that you have a metal conductor vs. a glass conductor is the reason for the power drop. A metal conductor will always conduct more energy than a glass conductor and this can be verified using an oscilloscope.

After we did the tests on single ray tubes and hand-held ray tubes we tested metal hand-cylinders. We measured a 3.1 MHz 15-watt RF amplifier using metal-hand cylinders. The instrument voltage, when measured with an oscilloscope, was 330 volts at the circuit and about 330 volts at the metal hand-cylinders. Because of the direct contact with a positive and a negative almost 100% or about 330 volts or 15 watts directly coupled through "Conduction" to the body of the user instead of only about 7% with a single ray tube or about 47% with two hand-held glass ray tubes. The body under these conditions becomes an antenna. To verify this we used an Elenco F-2800 1 MHz to 3 GHz handheld frequency counter to see how far the signal could be read off of the body. When the hand cylinders were read, with no contact with the user, the signal was only readable within a few inches of the metal hand-cylinders. But when the metal-hand cylinders were held in the hands by the user, the 3.1 MHz carrier frequency could be read for over 12 feet from the person holding the metal hand-cylinders. This verifies that the body does become an antenna.

These tests now give us a reasonable comparison of how much energy couples to the body through "Conduction" with a single ray tube, hand-held ray tubes, and metal hand-cylinders.

1. With a single ray tube, about 7% of the energy will couple with the body through "Conduction" from holding the ray tube in the hands as long as a ground plate is used.
2. With hand-held ray tubes using the reversing polarity method about 47% of the energy will couple to the body through "Conduction" when holding the two hand-held ray tubes in the hands.
3. With metal hand cylinders about 100% of the energy will couple to the body through "Conduction" from holding the metal hand-cylinders in the hands.

Dr. Rife used the glass ray tube method because it was less conductive and safe to use next to people or animals. He also used instruments that were 50 to 500-watts. If someone touched a metal antenna with this amount of power they would receive instant third-degree RF burns. For this reason, you would never want to be directly coupled to a ray tube instrument.

All of the tests that were done fully verify how "Conduction" and "Induction" work. The fact that the glass kept from 53% to 91% of the energy from directly coupling to the body clearly demonstrates the reason why Dr. Rife used a minimum of 50-watts with his ray tube instruments. Though this method of testing does not take everything into consideration it gives us a very close measurement of how much energy directly couples to the body, through "Conduction" when you hold a single ray tube or two small hand-held ray tubes in your hands.

Some people think that hand-held ray tubes using the reversing polarity method do not work as a point source because of the polarity change. Below is the definition of a point source:

**POINT SOURCE:** *"Any point source which spreads its influence equally in all directions without a limit to its range will obey the inverse square law. This comes from strictly geometrical considerations. The intensity of the influence at any given radius is the source strength divided by the area of the sphere. Being strictly geometric in its origin, the inverse square law applies to diverse phenomena. Point sources of gravitational force, electric field, light, sound or radiation obey the inverse square law."*

Even though the hand-held ray tubes do have an intense field between them they also radiate in all directions (360 degrees) like a point source because about 53% of the energy is output from the ray tubes using the "Induction" method. This was easily proven by doing another simple test. We put the hand-held ray tubes within two inches of each other, where the intense magnetic field is the strongest, and we were able to pick up the frequencies broadcasting off the hand-held ray tubes 10 feet away with the oscilloscope probes. We were also able to easily read the frequencies with a hand-held frequency counter. These tests prove that they are also a point source that radiates in all directions. Logically, if they didn't radiate the frequencies out in all directions then they wouldn't be called ray tubes and they also wouldn't work on about 53% "Induction." All ray tubes, in one degree or another, also work as a point source.

In the "Point Source" definition it also mentioned the "Inverse Square Law." This law deals with power loss and distance. We will give a simple explanation which should make it so the reader can understand how this law works. If we use 100-watts as an example this is what happens to the power output. At one foot away from the ray tube, you would have 100-watts of RF radiant power. At two feet you only have 25-watts and at 3 feet you only have 11.11-watts of penetrating power from the ray tube. You can see that the power drops off very quickly when using the "Induction" method of delivering frequencies into the body with a ray tube. Because of this law of physics, it is easy to understand that whatever power level is output by a ray tube, or two hand-held ray tubes will never be coupled to the body by "Induction." What must be considered is there is significant power loss using the "Induction" method that must be overcome by using more power. Another factor of power loss that also needs to be understood is the energy coming out of the ray tubes is being radiated out in a 360-degree radius. So even if the ray tube is kept close there is significant power loss that must be taken into consideration. Anyone reading this can understand that the laws of physics are important to understand when considering power loss with ray tubes. No matter what anyone may think the law of physics applies to all ray tubes. Regardless of what may be claimed when you use the non-contact "Induction" method of delivering frequencies to the body, it does not work the same as having a direct physical connection to the positive and negative terminals. The energy or frequencies are radiated out from the ray tube, or tubes, and enter the body without directly coupling with the person using them.

Once it is understood how the science of "Induction" really works it is easy to understand the limits of this method unless you use the power levels of Dr. Rife's 1930/1950's equipment used which was 50 to 500-watts. At the lower power levels of 2 to about 30-watts a single ray tube, or two small hand-held ray tubes, would be greatly underpowered compared to Dr. Rife's equipment. Though Dr. Rife used higher power levels he did not drop below 50-watts once he reached this power level.

When both methods of delivering frequencies are understood we find the "Conduction" method of using metal hand cylinders is about 53% more efficient than the "Induction" method which uses hand-held plasma ray tubes. The reason for this is you can put more power directly into the body using metal hand-cylinders within certain power ranges. This is due to the fact that the "Conduction" method has no insulators to keep the electrical frequencies from going into the tissue of the body. Metal hand-cylinders are like touching bare electrical wires where one is positive and the other is negative. There is nothing to keep the electrical frequencies from going into the body. Because of this "Conduction" or direct contact method more power is transferred into the person even though a frequency generator may be using a lot less power. What we are trying to explain is, one method is direct coupling or direct contact with the electrical current, and the other is non-contact coupling with the electrical current.



All tests show that contact coupling or "Conduction" will always work better than non-contact coupling or "Induction", within certain distances and power ranges. We said certain power ranges because Dr. Rife's 1930's/1950's equipment used the non-contact or "Induction" method with a great deal more power than 30 watts of energy. He used 50 to 75 watts with all the machines that were sold to doctors or individuals. With the "Conduction" method of using hand-held metal electrodes more than 15 to 20-watts of energy would not be advisable to use in direct contact with the skin. Above this 15 to 20-watt power level, a person would want to use at least 50-watts. Dr. Rife fully understood the limitations of this "Induction" method and this is why he used 50 to 500 watts. At these levels then the "Induction" method of using a ray tube is superior to using two hand-held ray tubes. The reader should not believe that we are pro one method over the other. Both methods work to deliver frequencies to the body but when you use either method of "Conduction" or "Induction" you must have the proper power levels for the specific method used otherwise you will not get the maximum benefit.

Even if a hand-held ray tube instrument could output 30 watts, because of the 53% induction power loss it would be no more powerful than a metal hand-cylinder instrument that output 15 watts. When using metal hand-cylinders 100% of the energy is directly coupled to the person using it. Now if you move up to Dr. Rife's 50 to 75-watt range using a ray tube it will be superior to the direct contact method because of the superior power output. It is the understanding of how "Conduction" and "Induction" works make it easier to understand the two methods that were used by Dr. Rife, John Crane, and John Marsh.

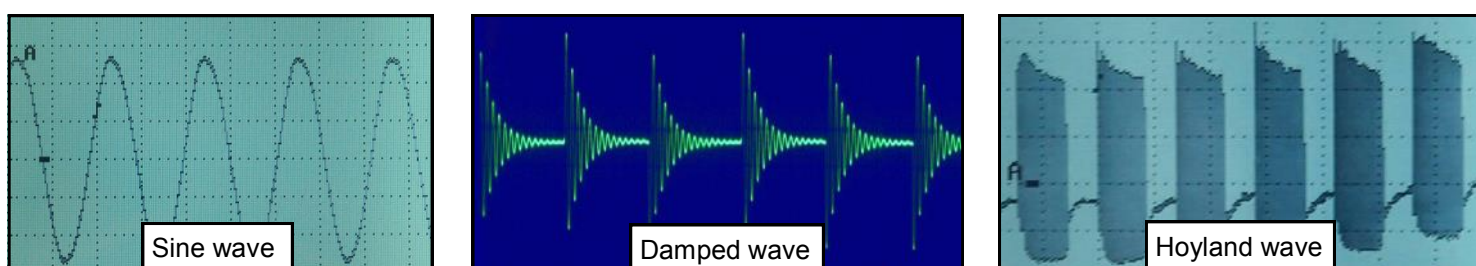
**CHAPTER SUMMARY:** Understanding "Conduction" and "Induction" makes it possible to understand how both ray tube and metal hand-cylinder or footplates work to deliver frequencies. "Conduction" is the direct contact or coupling method which uses metal hand-cylinders with a positive and negative. "Induction" is the plasma ray tube method which is not directly coupled to the body using a positive or a negative. It uses the radiant method of delivering frequencies. Both methods were used by Dr. Rife's business partners. Dr. Rife preferred the "Induction" method which used 50 to 100 watts of RF power output through a ray tube. His two business partners, John Crane and John Marsh, built frequency generators that used the "Conduction" method of using metal hand-cylinders or metal disks.

In chapter 19, Dr. Rife's Gating or pulsing circuit will be explained. This type of Gating circuit was used in his first four machines.

## Chapter 19

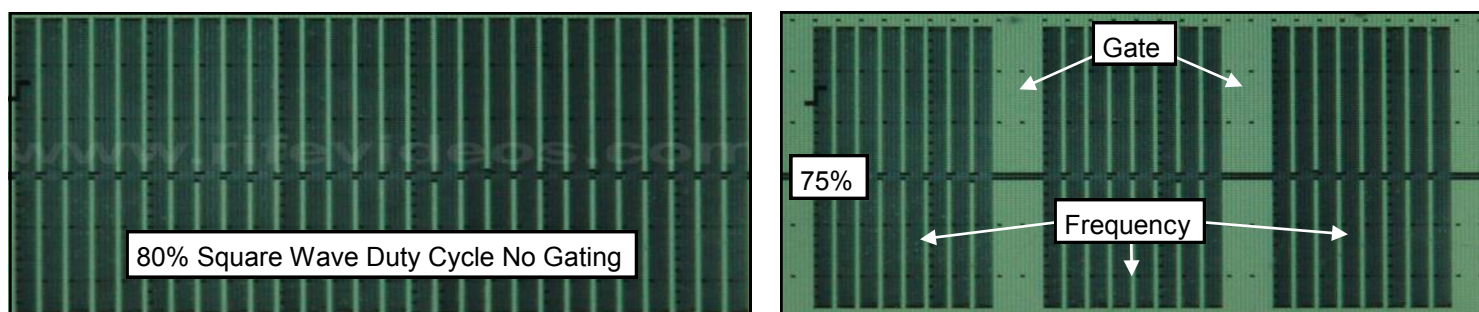
### Dr. Rife's Gating

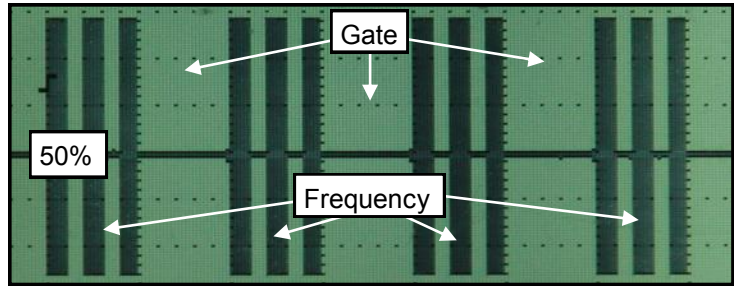
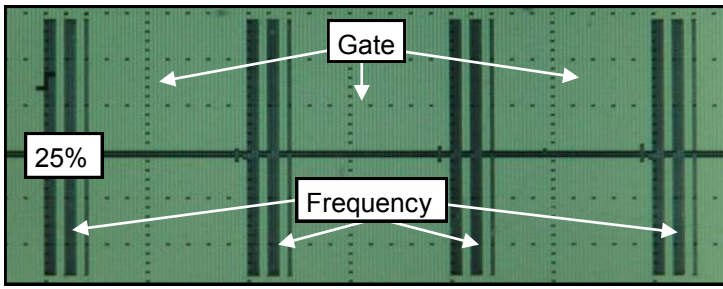
In the original 1920s/1930's high frequency-equipment gating was used to shape the RF or high radio frequency sine wave waveform so that it had a high potential voltage rise on the leading edge. Sine waves do not have an instantaneous rise like a damped wave or a square wave. They rise like the rolling waves on an ocean. The original sine wave waveform was shaped into a damped waveform by using a single audio frequency of about 1330 Hertz. By 1936 the damped waveform was changed. The new waveform which was created looked like a square wave except it slanted down on the top of the waveform. It was basically a poor square wave. Today many call it the Hoyland wave. That is because it was Dr. Rife's engineer, Philip Hoyland, who replaced the damped wave with this new waveform in [the 1936/39 Rife Ray #5 or Beam Ray clinical machine](#). Below you will see three photos. The first photo is of a sine wave waveform. The second photo is of a damped wave waveform. The third photo is the Hoyland wave (a poor square wave) which replaced the damped wave waveform in 1936.



By the 1950s a true square wave waveform was used instead of Hoyland's poor square wave. So gating in the original equipment was only used to shape the sine wave waveform into a damped wave or a square wave waveform. Today gating is not used to shape the waveform as in the original equipment but it is used to add an additional pulse to the waveform by turning the waveform ON and OFF.

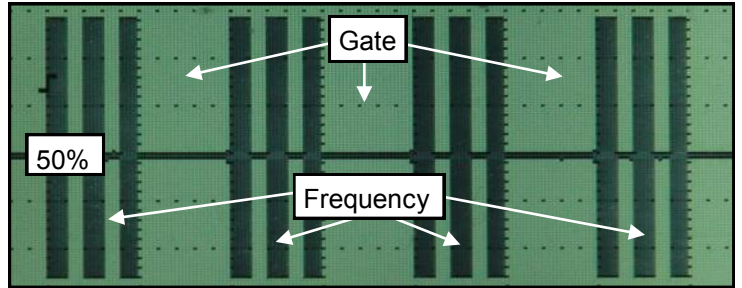
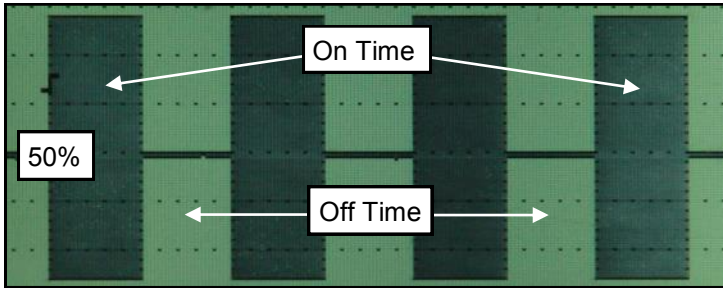
In the [original Dr. Gruner machine](#) which was built by Philip Hoyland, there was only one fixed low audio frequency of about 1330 Hertz used for gating. But the original 1936/39 Hoyland machine called the Rife Ray #5 or Beam Ray Clinical instrument was advanced forward in electronics and used a variable low audio frequency circuit. With this variable audio circuit, no separate gating circuit was needed because the variable low audio frequency circuit would do the same thing. It would gate or shape the high RF sine wave frequency into the shape of a square wave. This use of a variable audio circuit also produced many high RF sideband frequencies. In simple terms, the fixed gating frequency was no longer needed because of the variable audio circuit. But many people today want to have the ability to add an additional second pulse to the waveform so this is what gating is used for today. Below is a photo of a 1000 Hertz square wave waveform with no gating. The square wave duty cycle is 80%. The next photo shows the same 1000 Hertz square wave waveform using a 75% gating duty cycle. The large gaps in the frequency are the gate. You will notice that the ON time of the frequency is 75% and the OFF time of the frequency is 25%.





In the next two photos, shown above, are a 25% duty cycle gate rate and a 50% duty cycle gate rate. These photos of waveforms show how gating works and how it adds an additional pulse to the waveform depending on the duty cycle of the gate. Not only can the gate duty cycle be adjusted but the cycles per second or Hertz can also be adjusted. By doing this it can vary the pulsing in the waveform. In Dr. Rife's original equipment the gate was fixed at a 50% duty cycle and the cycles per second were about 1330 Hertz.

With this understanding of gating, we can now explain a few more things about gating which also need to be understood. If gating is used it will reduce the power output of any frequency being run. This power loss is in addition to the power loss with the square wave duty cycle. Below, on the left is a photo of a 50% duty cycle square wave with no gating. In this photo, you can see by the duty cycle per-



centage that you only have 50% of the power in a frequency if you use a 50% duty cycle. This is due to the fact that 50% of the power is lost in the OFF time of the frequency. If you had an instrument that had a true RMS (RMS is true power) 50-watt output then you would lose 25 watts of energy because of the OFF time. There would be 50 watts of energy in the waveform, but only for the ON time. Now if you use a 50% gate as shown in the photo above, on the right, you would lose an additional 50% more energy in the waveform. The 50% gating duty cycle would reduce the power in the waveform to 12.5 watts of energy.

For the reasons just explained gating should only be used if you really understand what it does and how it affects the power output of the frequency you are running. Most people use gating without understanding what it is and how it works. Usually, there is sufficient pulsing in the square wave waveform without the use of gating due to the fact that the square wave waveform is already pulsing the frequency being used. If a person wants to try gating and see if it helps, having a good understanding of how gating works will help them to choose a gate duty cycle and gate rate that may work the best.

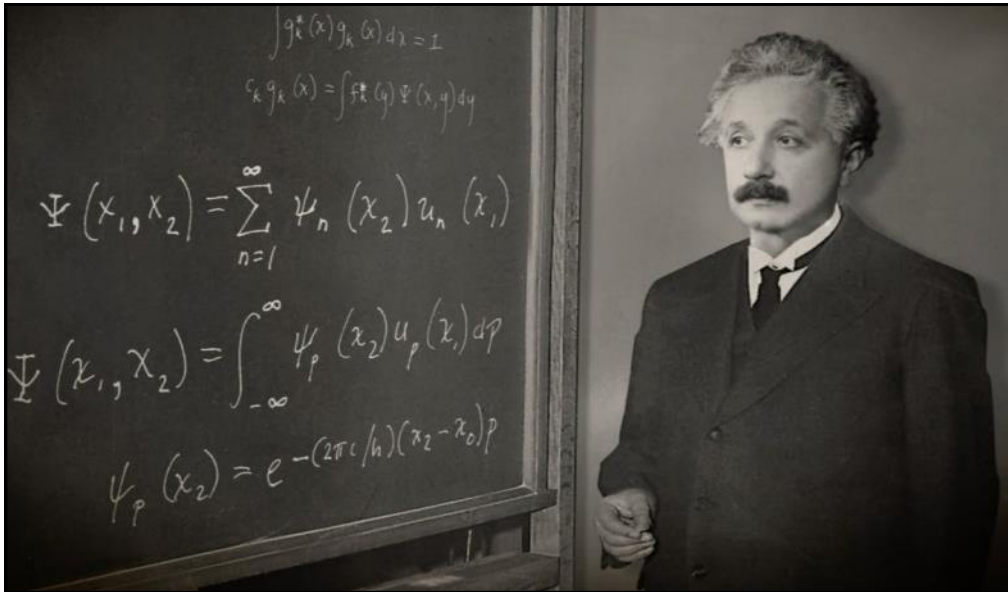
**CHAPTER SUMMARY:** Dr. Rife used gating in his instruments. His gating was a fixed audio frequency circuit that gated or pulsed the high RF or Radio frequencies he was using. Dr. Rife's engineer, Philip Hoyland, in 1936 replaced the fixed audio circuit with a variable audio circuit. With the use of the variable audio circuit the fixed gating circuit was no longer needed. The use of gating today is an additional pulse that was not used in Dr. Rife's original equipment. This additional gating will reduce the power output in the waveform it is used with. This additional gating may or may not be helpful and only the user can determine this.

In chapter 20, "Spooky Action at a Distance" and "Quantum Entanglement" will be discussed.



## Chapter 20

### Dr. Rife and “Spooky Action at a Distance”



The reader of this report may have heard of “Spooky Action at a Distance.” “Spooky action at a distance” is about the theory of “Quantum Entanglement” and “DNA Entanglement.” This theory is also referred to as “Distance Therapy, Radionics, Remote Healing or Scalar Wave Therapy” and is all basically included in “Spooky Action at a Distance.” It was actually Albert Einstein that coined the phrase “Spooky Action at a Distance” as a derogatory statement because he did not believe in it. The problem with “Quantum Entanglement” and “DNA Entanglement” is the actual science 100% contradicts the claims people are making about it in regards to frequencies. This information is given so the reader will have the scientific information about this subject. We will only stick to the science of “entanglement” and not speculation in this report because it can affect people in a very negative way.

Dr. Rife never believed in this theory even though some people and companies today are incorrectly claiming he did believe in it. There are also some companies that falsely claim their Rife type frequency generator is the only one that has this capability. To prove this false all we have to do is read the claim of how they discovered “Quantum Entanglement” works. Quote:

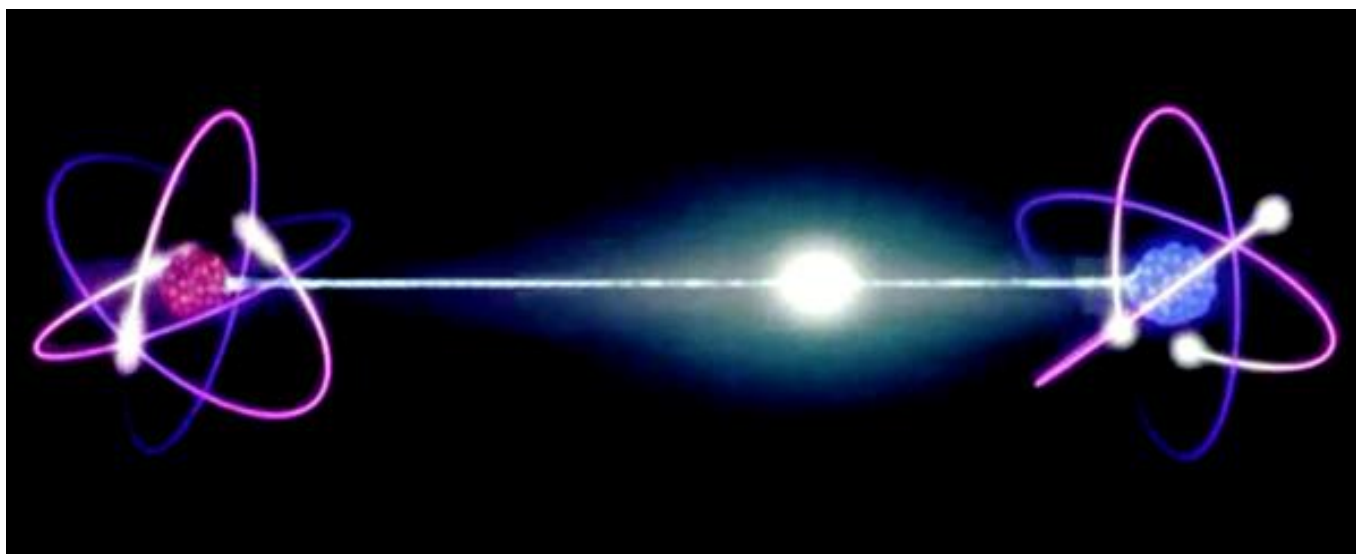
**Claim or Theory:** *“A friend who just bought a new Rife machine made the astounding claim that the DNA contained in fingernails or hair could transmit energy frequencies directly to the owner of that DNA simply by placing the samples between the machine’s electrodes with no wires or physical contact needed. He was skeptical. So he and his friend tried it on his daughter who’s profoundly energy-sensitive. To his astonishment, it worked perfectly. So he looked for an explanation. And he found that this phenomenon was actually sound science. Albert Einstein called it “spooky action at a distance.” Modern physics calls it “quantum entanglement.” Simply put, it means that if any part of a single system is removed from that system to a different location, any action performed on the part will also be instantaneously performed on the parent system, and vice versa.”*

Notice in the above statement they claim it was discovered it by placing **“the DNA contained in fingernails or hair samples between the machine’s electrodes with no wires or physical contact needed.”** If it does work by this simple method then all “Rife Machines” will work because every one of them either uses electrodes or plasma tubes and the DNA samples can be put between any electrodes or in front of any plasma tube, and treat any person. Their own words prove that their exclusive claim to “Remote Treatment” is false. If you are a person who believes in “Remote Treatment” you can treat

yourself with whatever “Rife Machine” you own. By explaining this we do not want anyone to believe that “Remote Treatment” is literally a proven science as claimed. We just want people to know that all “Rife Machines” will have the same capability if there is anything valid to the DNA entanglement claims.

Most people are generally very trusting and believe whatever they are told if the person telling them the information seems to be sincere. Simply put, “Spooky action at a distance” is about the belief that you can take any tissue, such as a fingernail clipping that has a person’s DNA, and treat that fingernail clipping or tissue with a frequency, and through “DNA Quantum Entanglement” treat the whole body of the person that the tissue came from at any distance no matter how far away the distance may be. The problem with their claim is it does not agree with the proven documented scientific facts on how “Quantum Entanglement” actually has been scientifically proven to work. Anyone with reasonable common sense naturally should be very skeptical in regards to this “DNA Quantum Entanglement” claim. Just because someone claims something exists does not mean their belief of how it works is true! If a person is willing to read a little information and watch a few videos they can easily find out that “Quantum Entanglement” or “DNA Entanglement” does not work as claimed in regards to treating anything. It is easy to make incorrect claims but it takes more effort to show these claims are without any merit or truth. In this chapter, we are willing to cover this information so the reader will have the documented scientific truth. It is impossible that these frequency generator companies do not know the truth since they also would have had to read the same information we did in this chapter. This information is what they really do not want you to know and understand. Otherwise, their profits will go down. First, we will read their theory which they incorrectly attribute to Albert Einstein and then show the easily obtain proof that it is a false theory. The only reason they attribute it to Albert Einstein is that they know his name will get people to believe in it. We quote:

**THE THEORY:** *“If any DNA part of a single system is removed from that system to a different location then any action performed on that removed part will also be instantaneously performed on the original system regardless of the distance.”*



The photo above represents “Quantum Entanglement.” Albert Einstein never made the above statement or claim, nor did he believe in “Quantum Entanglement.” What is concerning is both Albert Einstein and Dr. Rife’s names are now being used to promote something they never believed in.

What should be clearly understood is the original understanding of “Quantum entanglement” or “Spooky Action at a Distance” is not false. It is only their new concept or claim of how “Quantum Entanglement” actually works is what is false. But the separate “DNA Entanglement” concept is totally false. Once people are given this correct information they then understand how these two new “Entanglement” claims do not hold up to the science.

## SCIENTIFIC EVIDENCE

Here is the scientific evidence anyone can find, which is hard to reject. The theory of “quantum entanglement” or “Spooky Action at a Distance” was proposed back in 1935. Einstein had a problem with this theory because it appeared to contradict his theory of relativity, which states that nothing can travel faster than the speed of light. This caused him to negatively refer to “Quantum Entanglement” as “Spooky Action at a Distance” because he thought the whole thing was absurd. Einstein was both right and wrong. This theory was finally proven correct by measurable experiments in 1997. The importance of the 1997 tests is the fact that the results were **MEASURABLE** and therefore **VERIFIABLE** and **REPEATABLE**. This means it is no longer a theory, but it is a scientifically proven fact.

In watching the next three videos below the most important thing you will come to understand is “Quantum Entanglement” is a **ONE TIME, ONE DIRECTION**, communication that does not send “usable information.” The only thing that is sent is “random information.” Any frequency from a frequency generator is “Usable Information” because a frequency can carry many different types of information such as music, video or someone talking. Because of this scientifically proven fact this means you cannot take a clipped off fingernail from someone and through the claim of “Quantum Entanglement” or “DNA Entanglement” treat the fingernail with frequencies and have the person, who may be a few miles to thousands of miles away, receive the treatment. This **ONE TIME, ONE DIRECTION** communication is a scientific fact they completely do not want to discuss because they would not be able to sell their “Distance Healing” concepts if people really understood how “Quantum Entanglement” only works with very small particles the size of photons, electrons or atoms in a **ONE TIME, ONE DIRECTION** communication.

The whole concept of “Distance Healing” or “Spooky Action at a Distance” is built upon a false belief that “Usable Information” can be sent back and forth, using a bi-directional (back and forth) communication between “Entangled” particles, including DNA. Below and at the top of the next page are the links to three videos that scientifically discuss how “Quantum Entanglement” actually works and its **ONE TIME, ONE DIRECTION** communication. Anyone reading this Rife Machine Report should take the time to watch these videos because they will help you to understand how “Entanglement” actually works. Then you will be able to understand how the “Distance Healing” or “Spooky Action at a Distance” concept is being promoted by an incorrect understanding of how “Quantum Entanglement” take place and how it actually works with particles the size of atoms, photons, and electrons. Click on the links or the photos below, and at the top of the next page to watch the videos.

<https://www.youtube.com/watch?v=ZuvK-od647c> <https://www.youtube.com/watch?v=QErwOK3S5IE&t=3s>



Could quantum entanglement be used to transmit information instantaneously between interplanetary spaceships?  
(Submitted by Matthew Del Favero)

bt bigthink.com/michiokaku





If you watched the videos then you understand that “Quantum Entanglement” takes place when two subatomic particles the size of photons, electrons or atoms become linked by the strange property now called “Quantum Entanglement” or just “Entanglement.” But this only happens when they are created at the same point and instant (instant meaning the same time) in space. What most people do not understand is the only naturally occurring things that have been scientifically proven to become “Entangled” are atoms, electrons, and photons. The words "Naturally Occurring" are used because scientists have been able to "Entangle" man-made things by the use of very sophisticated equipment.

A simple way to understand what is meant by “Naturally Occurring” is mankind is only able to travel as fast as his legs can carry him. But with the aid of equipment, we can travel incredibly fast, even many thousands of miles per hour. But the equipment we use is not "Naturally Occurring" in nature because someone had to build it. This is the reason why "naturally Occurring" "Quantum Entanglement" only happens, as pointed out in the above videos, when two of these particles are created at the same point and instant in time and space, out of energy. If it does not happen in this way then no measurable “Quantum Entanglement” takes place. Today we have the ability with sophisticated equipment to “Entangle” particles. This is what was scientifically documented and proven to happen in 1997. It is not speculation or just a theory. What is interesting is when two “Entangled” particles of atoms, electrons or photons are created at the same point and instant in time and space, out of energy, they have no set “Spin” or what is scientifically referred to as “Angular Momentum or Orientation” until one of the two particles is measured.

The "Quantum Entanglement" videos clearly pointed out that all fundamental particles have “Spin” or “Angular Momentum and an Orientation” in space. If by a physical act you measure one of those two “Entangled Particles” then the other “Entangled Particle” will instantly change its "Angular Momentum and Orientation" in the opposite direction of the first particle measured. But an important fact which is ignored and deliberately left out is this. Once one of the two “Entangled Particles” is measured then both are fixed in their "Angular Momentum and Orientation" and any re-measurement will not change this "Angular Momentum or Orientation." This is why it is a **ONE TIME, ONE DIRECTION**, faster than light communication. In the 1997 experiment the particles were separated by seven miles and when one particle was measured, the other particle, several miles away, had an instantaneous response of an opposite “Spin” or “Angular Momentum or Orientation” verifying “Entanglement” does take place.

These tests are how they were able to prove that “Quantum Entanglement” is real and no longer just a theory. These tests have been repeated many times since then. This is so easy to understand that anyone can understand it. It is important to also understand that any and all results of these tests were and are measurable and repeatable. If someone says that something is not measurable with “Quantum Entangled” particles then you know they are only promoting an unproven theory. Also, if something has already been scientifically proven false and someone still keeps claiming that it is true, without any new scientific information, then their motives become questionable.

It is important to understand that the measurement of an “Entangled” particle is a physical act upon one of the two “Entangled” particles. The basic idea here is to think about the transfer of information. “Naturally Occurring” “Entanglement” allows one particle to instantaneously influence another, but it also has been proven by many scientific tests over the past almost 23 years that no “Usable Information” is or can be transferred from one particle to the other beyond this “Spin” or “Angular Momentum or Orientation” information.

The next thing to understand is what is considered “Usable Information” in this context. Understanding this is very important because it is this **ONE TIME, ONE DIRECTION**, communication that is being deliberately left out because if you understand it then you will know their theory is false. Some scientists have speculated that this property of “Quantum Entanglement” could be used to communicate instantly from a small distance to a distant star system many light-years away. But due to the fact that the “Spin” or “Angular momentum and orientation” are the limits of this **ONE TIME, ONE DIRECTION**, communication and an “Entangled” particles “Spin” direction is not known until it is measured, this makes communication of “Usable Information” such as a frequency not possible. This is the reason why they say Albert Einstein was both right and wrong. Right, because no “Usable Information” can travel faster than the speed of light, but wrong because the “Spin” or “Angular Momentum and Orientation” does travel faster than the speed of light. What is easy to understand is all theories cease to be theories once the results or effects are measurable and repeatable. Because of this scientifically proven fact this means you cannot send any of Dr. Rife's frequencies through “Entangled” particles or even DNA tissue because a frequency is “Usable Information.” It is this same measurable principle that Dr. Rife used in all of his laboratory testings on microorganisms using frequencies that people understand.

This scientific information clearly proves that these frequency generator companies are selling their equipment based on a false understanding of how “Quantum Entanglement” actually works. This information also clearly disproves the false concept of “DNA Entanglement.” If it really did work as they claim then every company's frequency generators would also be able to use “Spooky Action at a Distance” or “Quantum Entanglement” because any frequency generator from any company would work. But the whole concept is scientifically false and anyone can understand this after having watched the three videos at the links on page 246. Now, let us read again their claim or theory:

**Claim or Theory:** *“If any DNA part of a single system is removed from that system to a different location then any action performed on that removed part will also be instantaneously performed on the original system regardless of the distance.”*

Now that it is understood how “Quantum Entanglement” actually works it is easy to see how their claim or theory does not hold up to the science for the following reasons. First: It is stated that any and all systems of the human body are “Entangled.” Second: They state any action performed on any part of that system of the human body which has been removed (like a fingernail) when treated will treat the whole system of the body regardless of the separation or distance apart they are from each other. These claims scientifically are not only false but also very misleading. These “DNA Entanglement” claims are not only unbelievable, but they are a **“QUANTUM LEAP”** rather than “Quantum Entanglement.” They want people to not only believe the whole body is “Entangled” through DNA, but they also want people to believe that “Usable Information” such as a frequency can be sent back and

forth through “Entangled” particles regardless of the fact that this has been scientifically proven not to be possible. What has been scientifically proven is once one of the “Entangled” particles are measured then both particles become fixed in their “Spin” or “Angular Momentum or Orientation” and no back and forth communication is possible. These scientifically proven facts show that it is impossible to treat a clipped off fingernail with frequencies, and by so doing, treat the whole body of the person the fingernail came from. Those who promote these false concepts are the people who are really taking things out of context.

Today there are scientists with the aid of sophisticated modern technology working on using “Quantum Entanglement” to find a way to send useable information. This work is looking very promising but it will require the aid of very expensive man-made equipment. Here are four links to articles about some of the technology that is being worked on. Keep in mind that none of this technology falls under “Naturally Occurring.”

<https://phys.org/news/2019-08-complex-quantum-teleportation.html>

<https://www.wired.co.uk/article/quantum-teleportation-earth-orbit>

[https://www.nytimes.com/2015/10/22/science/quantum-theory-experiment-said-to-prove-spooky-interactions.html?\\_r=1](https://www.nytimes.com/2015/10/22/science/quantum-theory-experiment-said-to-prove-spooky-interactions.html?_r=1)

<https://www.sciencedaily.com/releases/2017/06/170615142754.htm>

## HOW IT ALL STARTED

The following information is provided so people can understand how “Quantum Entanglement” or “Spooky Action at a Distance” became intermingled with Rife technology. In order to do this, you have to go back to the late 1990s.

At that time there was a metal hand-cylinder contact Rife machine seller who was having a difficult time competing with the non-contact plasma ray tube instruments. Dr. Rife's plasma tube Rife Machine instrument worked by broadcasting its frequencies from a plasma ray tube. He could have used a metal antenna, but at the power levels he used, it would have been dangerous if someone touched the metal antenna. Metal hand-cylinder type Rife instruments work because they come into direct contact with the skin of the user. Their power levels are kept within safe levels for contact use. In order to compete with plasma tube instruments, he started telling his customers that they could just lay down or sit between the metal hand-cylinders, one placed on each side of their body, and they would receive the frequencies just the same way as a plasma tube instrument broadcasts its frequencies to the user. This, of course, was false.

These contact instruments were only low audio frequency instruments which only had a 1 to about 10,000 Hertz frequency range. They did not use any RF (Radio Frequency) carrier frequency or output any RF frequencies like Dr. Rife's instruments did. Also, the metal hand-cylinders that are used are only about 5 inches long and they could not work as a metal broadcasting antenna because they are too short in length. Even if the instrument would have output RF frequencies it still wouldn't have made any difference because the 5-inch long metal hand-cylinders could never broadcast the frequencies like a plasma ray tube.

By doing this he was able to compete with the plasma ray tube instruments by claiming you didn't have to be in contact with the metal hand-cylinders to receive the frequencies. Of course, this was false, but many customers were easily fooled and would claim that it really worked regardless of the



fact that no frequencies were ever being broadcast from the metal hand-cylinders. This caused some to wonder why some people would seem to have positive results even when they were never being treated with any frequencies. The answer to that question has a scientific explanation. Almost everyone has heard of the "Placebo Effect." Here is the definition of the placebo effect which explains this phenomenon. We quote:

**PLACEBO EFFECT:** *"A beneficial effect, produced by a placebo drug or treatment, that cannot be attributed to the properties of the placebo itself, and must therefore be due to the patient's belief in that treatment. Sometimes a person can have a response to a placebo. The response can be positive or negative. For instance, the person's symptoms may improve. Or the person may have what appears to be side effects from the treatment. These responses are known as the "placebo effect."*

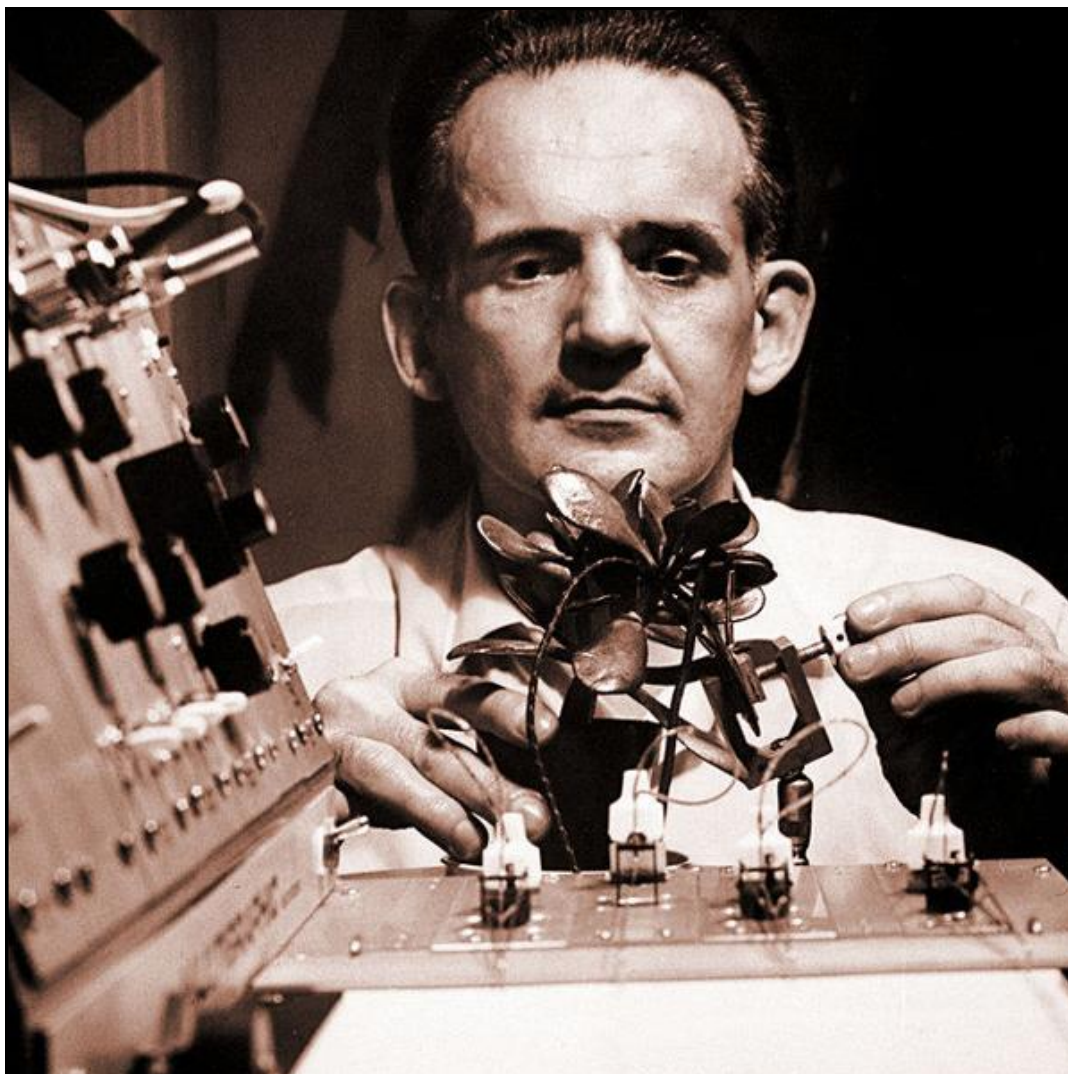
Scientific research on the "Placebo Effect" is focused on the relationship between mind and body. One of the most common theories is that the "Placebo effect" is due to a person's expectations. If a person expects a pill to do something, then it's possible that the body's own chemistry will cause effects similar to what a medication might have caused. It has been scientifically proven that whenever you use human beings in medical tests you will always have about a 35% placebo effect. In some rare cases almost a 50% placebo effect has been demonstrated. If this effect is not understood then this can give people a false belief that what they are testing is actually working. This is because the human mind is a powerful thing. Even if people are given a sugar pill they will get better. It is for this reason animals are used in scientific tests in order to eliminate the "Placebo Effect."

In order to try and make a long story short, because of this "Placebo Effect", some contact machine sellers started to make the same false claims about their instruments in order to compete with the competition. Today they seem to have fooled themselves and have become so convinced that this method of using metal hand-cylinders in a non-contact way really works. Either way, they embraced the whole false concept that you do not need to be in contact with any metal hand-cylinder frequency instrument, which uses no radio frequency carrier, and has no capability to broadcast its frequencies. If Dr. Rife could have done this he never would have needed to build any of the plasma tube type instruments he used over his more than thirty years of testing frequencies on microorganisms in his laboratory. But of course Dr. Rife lived in the real world, not a fantasy world.

This belief that you do not need to be in contact with an electrode type of frequency generator is both incorrect and unscientific. This would be like claiming you can electrocute someone without them ever coming in contact with the electrical current. Almost all appliances in our homes work on an audio frequency of 60 Hertz or 60 cycles per second. This 60 Hertz is an audio frequency at 110 volts of electricity which has many amps that can kill you if you come in contact with it. You can use the same 60 Hertz frequency at 110 volts with micro-amps and it will not harm you. It is the AMPS that will kill you. Since you have to come in contact with the metal electrical wire in order to become electrocuted then you must come in contact with the metal hand-cylinders or electrodes of any contact type instrument, either audio or radio-frequency, in order to receive the frequencies. You just cannot lay the hand-cylinders or any other type of electrodes beside you and somehow they will magically broadcast the frequencies and you will receive them. This is why these claims are scientifically incorrect. Any 10-year-old child can understand this when it is explained to them.

What people need to understand is the contact method of using metal electrodes has been used since the late 1950s. It works on a firm scientific foundation called "Conduction" or the direct contact method. The plasma ray tube method also has a firm scientific foundation called "Induction" or the non-contact broadcast method which works very well. The "Spooky Action at a Distance DNA Entanglement" embellished theory gave these contact machine sellers what they felt was a scientific explanation that they could use to explain why a person could sit between two metal hand-cylinders and supposedly be treated without being in direct contact with the instrument. Today they are still making the

same claims about the non-contact plasma tube instruments. This, in a nutshell, is how "Spooky Action at a Distance" and "DNA Entanglement" false concepts were introduced into Rife technology. This is why some Rife type machine manufacturers promote these incorrect concepts. The problem is there is a mountain of scientific evidence which proves these concepts are false. If this was really sound science then it wouldn't matter which machine a person purchased because any Rife type frequency generator with the proper frequency range (1 Hertz to about 18 million Hertz) would work and you could purchase any machine you liked. In the real world, frequency range and power is the determining factor in how well an instrument works, therefore, the more powerful instruments with the correct frequency range work the best.



## PRIMARY PERCEPTION

Next we will discuss how "DNA Entanglement" became mixed with Rife technology. Cleve Backster, photo above, was an FBI polygraph expert who found that plants and human cells seem to respond to thoughts and feelings. He was able to measure this response using a lie detector or polygraph instrument. He referred to this as "Bio-Communication or Primary Perception." A few other researchers have been able to replicate Backster's work. Even the hit TV program Myth Busters was able to do this on one of their TV show episodes. On the next page are some links to videos about his "Bio-Communication or Primary Perception" work. We would recommend that you also watch these videos. Myth Busters is the first video.

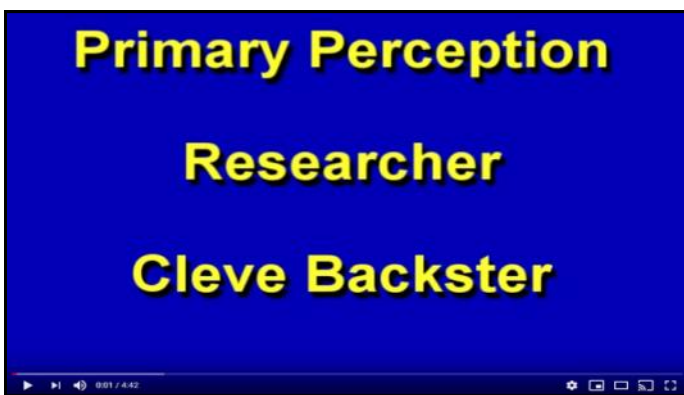
<https://www.youtube.com/watch?v=fStmk7e9lJo>



<https://www.youtube.com/watch?v=V7V6D33HGt8>



<https://www.youtube.com/watch?v=nLtoa59SEuk>



<https://www.youtube.com/watch?v=OkLPdDThOUs>



<https://www.youtube.com/watch?v=nYksxtB0w8U>



From watching the videos you can see that Cleve Backster's work is very interesting because he took plant leaves which had been separated from the main plant and found that the main plant would respond to additional harm done to the separated leaf. Other tests Backster did also showed that plants would respond to other plants, that were close to them, which were harmed. From his work it is apparent that plants appear to respond to some feelings. The fact that one plant responds to another separate plant being harmed would have nothing to do with DNA because in these tests with two separate plants both plants do not share or have the same DNA. Even if they did share the same DNA a frequency which is "Usable Information" could not travel through "Quantum Entanglement." Backster also did some interesting tests on separated human mouth cells and showed that the separated cells would respond to either the positive or negative reactions of the person who the cells came from. He showed



that these cells would respond even if the person and their cells were separated by several miles distance from each other.

It is Backster's work that has been embellished and used to promote the concept that every form of life, through its DNA, is "Entangled." This is where the DNA concept came from even though scientific "Entanglement" tests have clearly proven that this concept or theory is incorrect. This false concept now has been combined with Rife technology in order to try and give it some legitimacy. Even if DNA was "Entangled" it would not make any difference because it has been scientifically proven that a frequency, which is "Usable Information," cannot travel from one "Entangled" particle to another. Dr. Rife found that it was a specific resonant frequency that was needed to devitalize an organism. If a frequency cannot be sent through "Entanglement" then how can an organism be devitalized without it? This scientifically proves these claims are false. Here are two quotes that show how far these false "DNA Entanglement" claims have gone:

**QUOTE ONE:** *"A third, and less common, mode of transmission uses the principles of quantum physics and the antenna properties of DNA to transmit through what physicists call nonlocal space. These are remote machines...you don't have to be in the same room as the machine, or even in the same country (no, we're not kidding), so it's hand-free and it can be used while sleeping. Not as fast as contact or plasma, but equally effective, and...well, that's it, really."*

**QUOTE TWO:** *"The DNA contained in the fingernails or hair could transmit energy directly to the owner of that DNA simply by placing the samples between the machine's electrodes. With no wires or physical contact needed."*



If this false "DNA Entanglement" is not bad enough there are people who are taking Backster's work even farther and making even greater embellished claims than those we have discussed so far. They are now claiming that through "DNA Quantum Entanglement" we are all somehow connected within our DNA lines or systems (family lines). If this theory was true then we could treat one of our family members and all of our other family members would receive the same treatment because we all share the same "DNA Entangled" system. There seems to be no end to all of these embellished "DNA entanglement" claims once science and common sense are no longer used. Dr. Rife only believed in what he was able to scientifically prove and measure and he never believed in this kind of foolishness that is being promoted as real scientific facts using his name.

Here is another fact that has been ignored about "DNA Entanglement." What develops from human DNA (the human body) does not develop in an instant in time or space. It develops over 9 months of time. This is not how "Quantum Entanglement" between electrons, photons and atoms takes place. This is why there is no scientific evidence that human DNA is "Entangled." Consider this; if "Usable Information" in the form of frequencies could be sent from one "Entangled" particle to another the whole scientific world, including private industry and governments, would want this technology. This technology would be patentable and worth billions of dollars and anyone that could scientifically prove this concept would not be in the Rife type business at all. This fact alone should prove to anyone that this concept or claim in regards to "DNA Entanglement" is without merit. "Spooky Action at a distance, Distance Healing, Radionics or Scalar Wave" claims with or without "DNA Entanglement" is a false concept regardless of what anyone may claim.

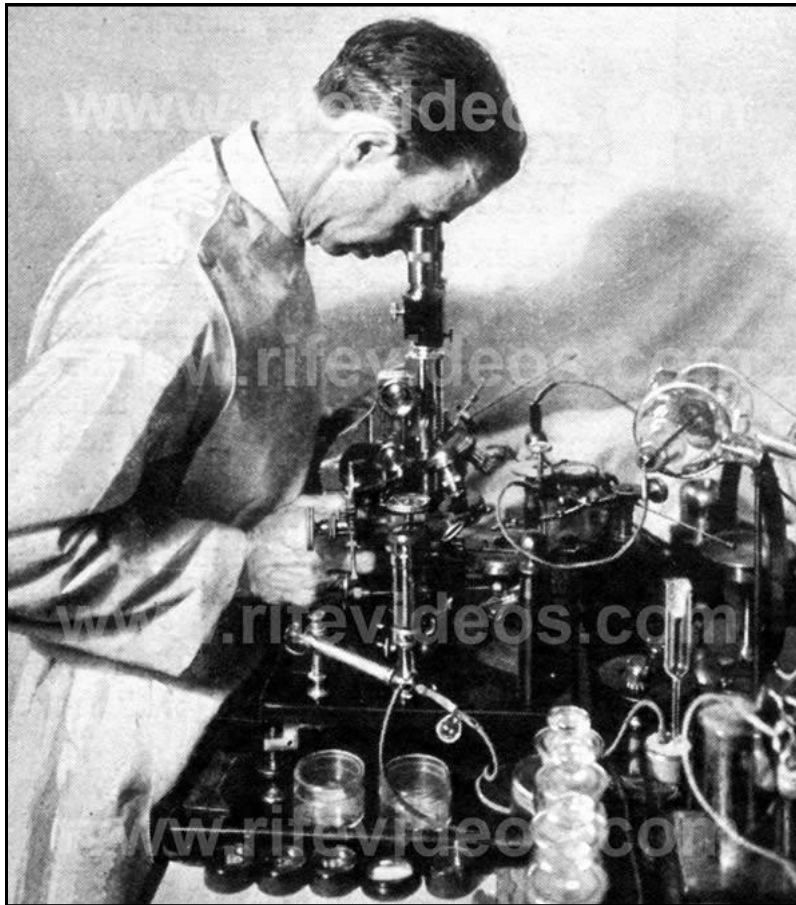
Anyone who promotes this concept should be challenged to prove that this method works on microorganisms placed under a slide. If it fails under microscope observation it is going to also fail in a glass of water or in someone's body. Dr. Rife spent over 30 years of his life on the work of devitalizing microorganisms. Many other doctors and scientists came to his laboratory to observe his work. If he was promoting some kind of fraud these scientists would have easily discovered this. Instead they left his laboratory amazed at what he had been able to accomplish. His work was legitimate science. Just the number of newspaper articles that covered his work is amazing. Today some 70 years later we have people claiming Dr. Rife's work was all faked. But those who worked with him and came to his laboratory were completely convinced of his work through their first-hand observations. Dr. Arthur Isaac Kendall (shown in the photo above) and Dr. Edward C. Rosenow who worked with Dr. Rife over several years could never have been fooled. They were among the top bacteriologists in the world. Dr. Kendall was considered by many to be America's Pasteur also shown in the photo above. Until "Distance Therapy" or "Spooky Action at a Distance" can

### "America's Pasteur" at Work



Dr. Arthur L. Kendall, above, "Americas Pasteur," is shown here in his bacteriology laboratory at Northwestern University with tubes of the culture, called "K" medium, that he developed to make visible minute germs never before seen by man. The germs change to a visible form when placed in this culture and it is hoped that his discoveries will pave the way to exact knowledge of such diseases as influenza, infantile paralysis, sleeping sickness and rheumatism.

kill or devitalize even one microorganism under observation, either right next to the microscope or half way around the world, it should never be accepted as sound science by reasonable people.



Dr. Rife's work was based on scientific testing in his laboratory using proven testing methods used by all reputable laboratories. Dr. Rife actually observed under microscope observation the devitalizing of many microorganisms when using the frequencies he found. His results were measureable. This is something "Distance therapy," "Spooky Action at a Distance," "Radionics," "Remote Healing" or "Scalar Wave" therapy cannot do. We realize that some people may believe in this form of "Distance Therapy" but these people should understand that it has never been proven to work under microscope observation or any other form of testing. Due to the fact that "Distance Therapy" has never been proven to work in laboratory settings on biological tissue or microorganisms people are now trying to associate it with another unproven methodology in order to possibly explain how it might work. They are now associating it with "Scalar Waves." Here is the definition of "Scalar Wave." Quote:

**SCALAR WAVE:** *"Scalar wave theory is a controversial theory and is considered pseudo science by most qualified scientists. A scalar wave is a purported type of electromagnetic wave that works outside physics as we know it. The central conceit is that scalar waves restore certain useful aspects of Maxwell's equations "discarded" in the nineteenth century by those fools Heaviside, Hertz and Gibbs. It has since been adopted by alternative medicine practitioners as the new "quantum": a universally-applicable science handwave to support any arbitrary claim whatsoever. In physics, a quantity described as "scalar" only contains information about its magnitude. In contrast, a "vector" quantity contains information both about its magnitude and about its direction. By this definition, a "scalar wave" in physics would be defined as any solution to a "scalar wave equation". In reality, this definition is far too general to be useful, and as a result the term "scalar wave" is used exclusively by cranks and peddlers of woo who know they have no scientific evidence."*

And here is the Radionics definition. Quote:

**RADIONICS:** *"The claims for radionics devices contradict the accepted principles of biology and physics. No scientifically verifiable mechanisms of function are posited. In this sense, they can be described*



*as magical in operation. No plausible biophysical basis for the "putative energy fields" has been proposed, and neither the fields themselves nor their purported therapeutic effects have been convincingly demonstrated."*

As can be seen by both of these above quotes the methodology behind "Distance Therapy" and "Scalar Waves" are both unproven methods. If people want to try "Distance Therapy" there is nothing wrong with giving anything a try but people should understand that it is not based on verifiable science. Dr. Rife's method of using resonate frequencies was verifiable. In some situations the microorganisms showed no physical change but when cultured in the laboratory they would not reproduce. Culturing of organisms is another verifiable method used in laboratories. This method was always used by Dr. Rife to verify that the organisms were devitalized regardless if he could actually see it being devitalize or not. The only way to be 100% sure is to culture the organism. "Distance Therapy" has failed 100% of the time when cultured.

Dr. Rife was so confident in his work that both he and Henry Siner, his laboratory assistant, injected the cancer causing BX organism into their bodies. No one would do this unless they were 100% confident they could devitalize the organism. Here is Henry Siners quote:

**HENRY SINER:** Both Dr. Rife and myself injected the virus into our own arms to see what would happen and neither one of us came down with the cancer. ([John Marsh Rife CD's volume 11, 30:51](#))

Dr. Rife found that his instrument could devitalize microorganisms on a slide placed under his microscope. When it came to organisms inside the body the [ray tube](#) was used within 24 inches for the greatest effect even though it would devitalize microorganisms over thirty feet away. The reason it is more difficult to devitalize an organism in the body is due to the fact that the body has impedance or resistance to electrical frequencies penetrating into it.

In one document it is mentioned that Dr. Rife's ray tube instrument could devitalize organisms outside the body, on a slide under his microscope, up to 1000 feet way from the ray tube. But the concept that a frequency can be sent remotely through "Distance Therapy" half way around the world, with only 1/10th to 1/5th of one watt of power or less, and devitalize or kill an organism in the body is a stretch for almost anyone's imagination. The problem is it required at least 50 watts of energy to devitalize a microorganism 1000 feet away outside the body and up to about 30 feet inside the body. Dr. Rife could not get the resonant frequencies to work in any other way.



What most people do not understand is plasma tube energy loss is governed by physical laws. Any power which is broadcast from a plasma tube or metal antenna is governed by the "Inverse Square Law" of physics. This means that for every foot you move away from the power source you

square the number and divide the power by that number. With a 50 watt ray tube at one foot away from the ray tube you have 50 watts of power ( $1 \times 1 = 1$ . 50 watts divided 1 is 50 watts. At 2 feet away you only have 12.5 watts ( $2 \times 2 = 4$ . 50 watts divided by 4 is 12.5 watts) and at 3 feet away you only have 5.5 watts of power. It does not take very long and the power level becomes so weak that it cannot devitalize or kill anything. When you combine this with the proven scientific fact that no frequency can be sent through any form of "entanglement" it means people are not getting what they pay for.

This is why the concept of "Distance Therapy, Spooky Action at a Distance" or "Remote Therapy" using frequencies has never been proven viable in any laboratory setting under microscope observation. The only reason people believe that Dr. Rife was able to do what he claimed he could do is due to all the evidence that exists. Many other doctors and scientists came to his laboratory and observed his results. Here is a link to the many published articles about Dr. Rife's work.

[Dr. Rife's newspaper articles.](#)

The idea that you can treat the DNA of a person with a frequency generator, which only has the power output of 1/10th to 1/5th of one watt, remotely, using "Distance Therapy" or Spooky Action at a Distance" anywhere in the world from a location thousands of miles away sounds too good to be true. These people want us to believe in something that defies all common sense, rational thinking or science. And yet there are people still willing to believe anything. Now if you asked these people to drink a glass of water with dangerous microorganisms treated remotely by this method they would not be willing to do it. When their life is on the line apparently their faith is not strong enough. If it was really a viable method then faith would have nothing to do with it because it would be scientifically verified.

No one has ever been able to prove this method works on microorganisms placed under a slide. If it fails under microscope observation it is going to also fail in a glass of water or in someone's body. Dr. Rife spent 30 years of his life devitalizing microorganisms under microscope observation. Many other doctors and scientists came to his laboratory to observe his work. If he was promoting some kind of fraud these scientists would have easily discovered this. Instead they left his laboratory amazed at what he had been able to accomplish. His work was legitimate science. Just the number of newspaper articles that covered his work is amazing. Today 70 years later you have people claiming Dr. Rife's work was all faked. But those who worked with him and came to his laboratory were completely convinced of his work through their first-hand observations.

Until "Distance Therapy, Spooky Action at a Distance, Radionics, Remote Healing or Scalar Wave Therapy" can kill or devitalize even one microorganism under observation, either right next to the microscope or half way around the world, it will never be anything but false claims used to sell unproven instruments.

**CHAPTER SUMMARY:** There is no written document that shows that Dr. Rife ever believed in "Quantum Entanglement" in regards to his method of devitalizing microorganisms. Two "Entangled" particles only communicate the "Spin" or "Angular Momentum and Orientation" of the first particle measured. The "Entangled" particles "Spin" direction is not known until it is measured. The second particle then orients its "Spin" or "Angular Momentum and Orientation" in the opposite direction. This is a one time, one direction, communication and this makes communication of "Usable Information" not possible with a frequency that can carry a voice, video or digital information.

In chapter 21, we will discuss how "Piezoelectric Crystals" work and why they cannot be used in "Crystal filled glass hand-cylinders" to produce ultrasound frequencies.

## Chapter 21

### Understanding Piezoelectric Crystal Filled Glass Hand-Cylinders



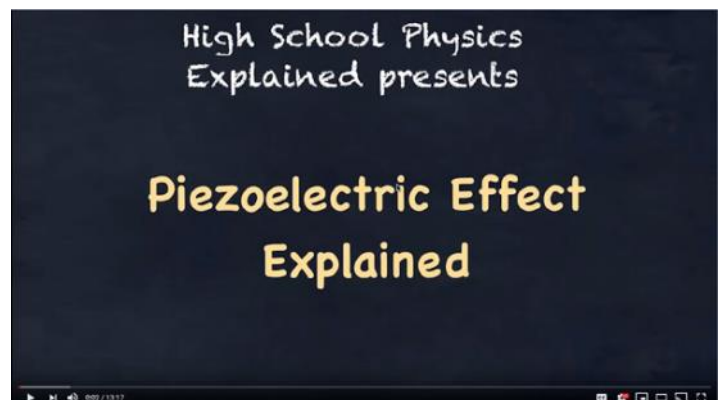
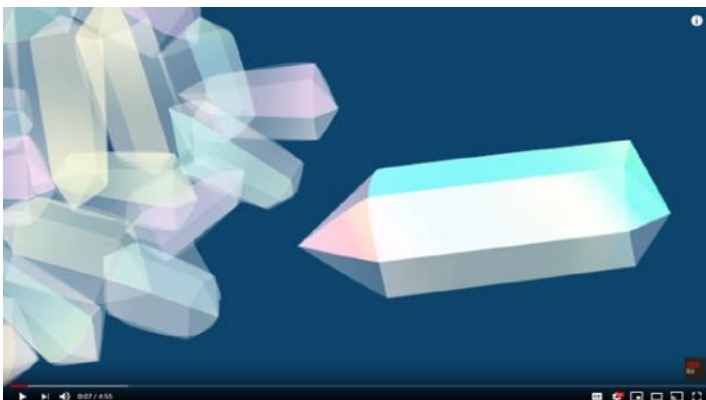
Those who make these "Crystal filled glass hand-cylinders" do not understand the scientific principles and methods that must be followed to produce either piezoelectricity or ultrasound frequencies. We state this because they have made some easy to understand serious design flaws that keep them from ever producing any ultrasound frequencies. The science is 100% against the methods they used in their design. The real problem is, those who purchase these crystal generators are only receiving a fraction of the useful benefits from using them, even though they paid \$175 to \$300 a set.

It is clear that those who make these "Crystal filled glass hand-cylinders" do not understand the basic scientific principles and methods that must be followed to produce either piezoelectricity or ultrasound frequencies. We state this because they have made some critical easy to understand serious design flaws that keep them from ever producing any ultrasound frequencies. The science 100% proves the methods they use in their design will never work. The real problem is, those who purchase these crystal generators are only receiving a fraction of the useful benefits from using them, even though they paid \$175 to \$300 a set.

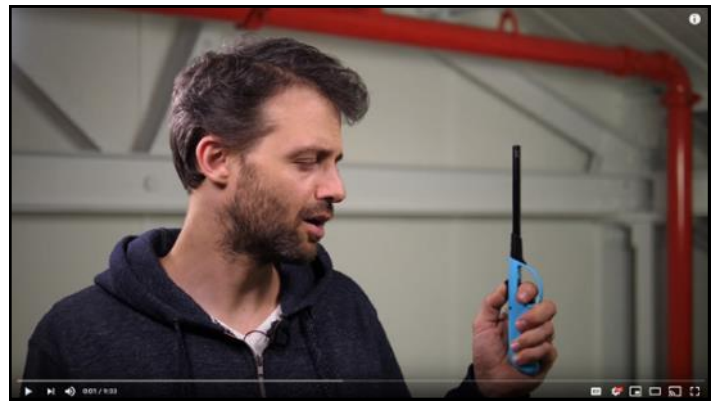
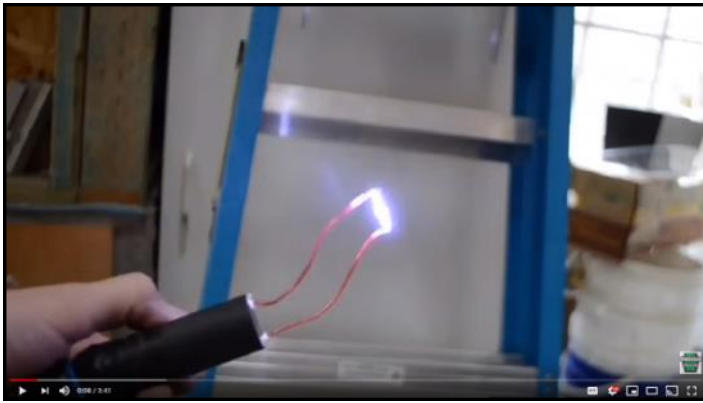
Before we can explain the crystal filled hand - cylinder design flaws people need to understand how piezoelectric crystals can produce electrical current or ultrasound frequencies. It is for this reason that we recommend the reader watch these four short videos. These videos show how electrical current put into piezoelectric crystals can produce ultrasound waves. They also show how mechanical stress, such as pressing thin slices of piezoelectric crystals, causes them to change shape creating a positive charge on one side of the crystal and a negative charge on the opposite side of the crystal. This mechanical stress makes them work like a battery that has a positive and negative output. Their design flaws are tied to the alternating current or positive and negative input and output of the crystals. Many people are able to see the design flaws just from watching the videos, either way, we will explain

<https://www.youtube.com/watch?v=YEJ2qyXclQ>

<https://www.youtube.com/watch?v=v1enr8PIM0w>



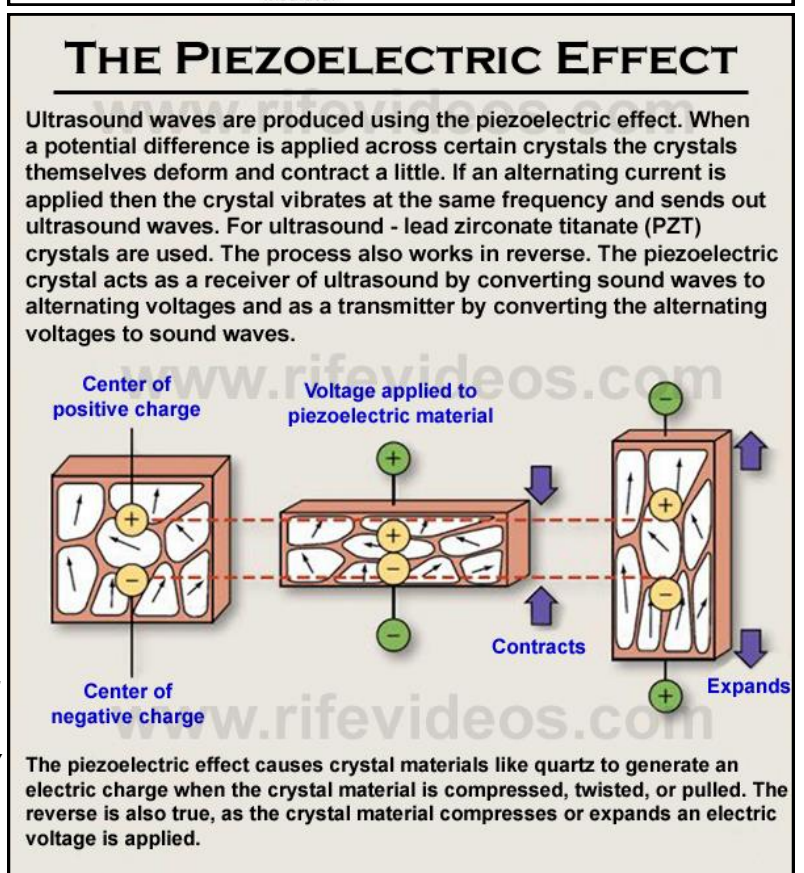
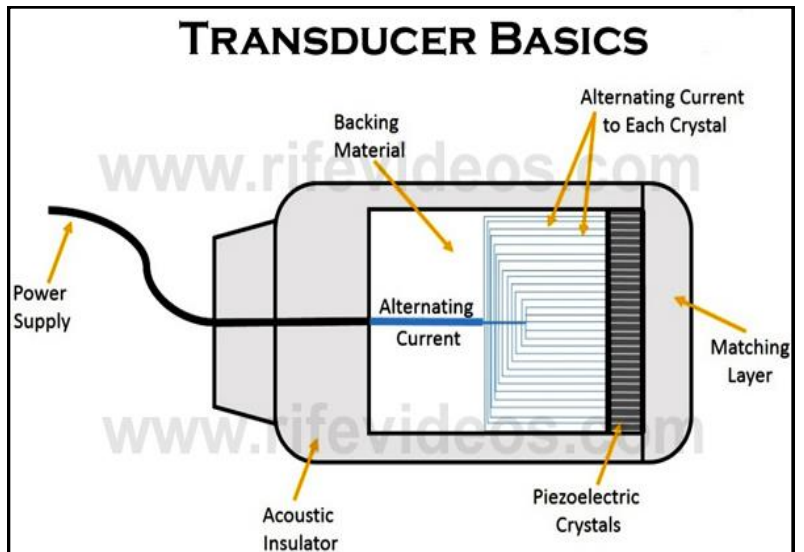




them to the reader of this report. Click on the photos below to watch these videos. If you watched the videos then you have a better understanding of how piezoelectric crystals produce electrical current or ultrasound frequencies. On the right, is a diagram of an ultrasound transducer or probe that has multiple crystals in it like the Crystal filled hand-cylinders do, but there is a major difference. The ultrasound transducer has electrical wire connections on each side of all the crystals so the voltage can be put into them on the positive and negative side of the crystals. Alternating current is used so the crystals will be stressed back and forth in two different directions over and over again and this creates ultrasound frequencies. The diagram, below and on the right, shows this expanding and contracting effect.

Notice in the diagram, on the right, that the crystals have a positive and negative side where the wires should be connected. Alternating Current or AC is basically like DC or Direct Current except the positive and negative is switched back and forth from positive to negative and this creates the ultrasound frequency waves. A piezoelectric crystal can also produce electricity and this is referred to as "Piezoelectricity." Here is the definition of piezoelectricity. Quote:

**Piezoelectricity:** "Is the appearance of an electrical potential (a voltage, in other words) across the sides of a crystal when you subject it to mechanical stress (by squeezing it). In practice, the crystal becomes a kind of **tiny battery with a positive charge on one face and a negative charge on the opposite face;**



*current flows if we connect the two faces to a circuit. In the reverse piezoelectric effect, a crystal becomes mechanically stressed (deformed in shape) when a voltage is applied across its opposite faces."*

Here is a quote that describes how ultrasound or ultrasonic waves are created using crystals:

**How are Ultrasonic Waves Generated:** *"In order to duplicate ultrasonic frequencies, humans have harnessed the electrical properties of materials. When a specially **cut piezoelectric quartz crystal** is compressed, the crystal becomes electrically charged and an electric current is generated: the greater the pressure, the greater the electric current. If the crystal is suddenly stretched rather than being compressed, the direction of the current will reverse itself. Alternately compressing and stretching the crystal has the effect of producing an (AC) alternating current. It follows that by applying an alternating current that matches the natural frequency of the crystal, the crystal can be made to expand and contract with the alternating current. **When such a current is applied to the crystal, ultrasonic waves are produced."***

With this understanding, we will now read the written description or "**theory**" of how the manufacturers of these Crystal filled glass hand-cylinders claim they work. You will notice in the first two of the three paragraphs we quote almost all of what they describe is scientifically correct about how piezoelectric crystals work, but only if the crystals are used outside of the Crystal hand-cylinder design with wires connected to them on the positive and negative side of each crystal. The third paragraph with their claims is incorrect. We quote:

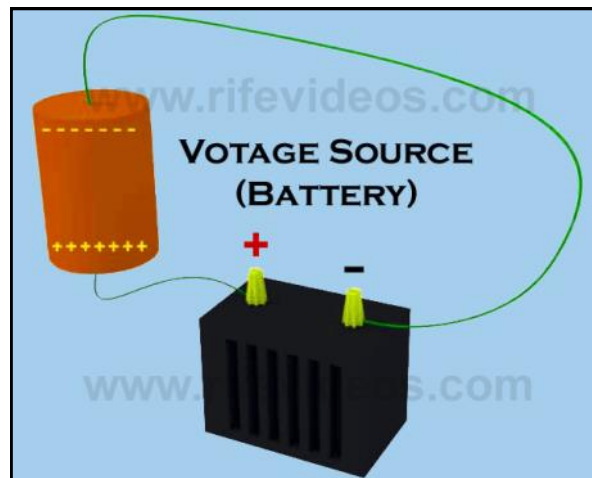
**Crystal filled glass hand-cylinder operation theory:** *"The Crystal Generators are a new technology that is currently very popular with users of frequency generators, Rife Machines, and many electro-therapy devices. The idea is that when the energy [energy = the electromagnetic frequency] from the frequency generator is transmitted into **the conductive saline/silver solution**, the electromagnetic energy [frequency] reacts with all of the different crystals and minerals in the Crystal Generators. That pulse of electromagnetic energy [frequency] reacting with the crystals and minerals causes a release of beneficial frequency energy-rich in harmonics. These special frequencies are extremely rich in harmonics due to the fact that every different crystal, mineral, or stone in the Crystal Generators creates its own unique harmonic frequencies when energized.*

*The charge distribution matrix within the quartz crystals and minerals is symmetric and the **net electrical potential is zero**. The quartz crystals and minerals, when activated by a frequency generator, delivers no electrical charge, but instead, delivers a sound wave compatible with the wellness needs of the cells. **There is neither an electric field nor a magnetic field associated with sound or ultrasound oscillations, vibrations, or waves**. This delivery system allows all cells to receive signals that activate their own blueprint frequencies.*

*Crystals, as natural piezo-electric oscillators, convert Frequency Generator frequencies into multiple sound signals that cause sympathetic blueprint resonance. Crystal Generators provide an expanded frequency delivery system to cells of the research subject. The body evidently knows how to heal itself, and when given the appropriate blueprint frequencies, these regenerative patterns serve both as a pacemaker and a cellular reminder of the original blueprint frequency response." These kinds of harmonic frequencies are unavailable in any other frequency generator's mode of operational output and are unique to the Crystal Generators. As the subject holds the Crystal Generators in their hands and runs their program of choice on their frequency generator, the spectrum of rich harmonic frequencies is transmitted and delivered to the energy field of the body with beneficially valuable and health-enhancing results.*

These Crystal filled hand-cylinders are not a "new technology" and have been around for almost 20 years. They mention that quartz crystals are "piezoelectric oscillators" and that they use these types

of crystals in their Crystal filled glass hand-cylinders. Crystal oscillators have been used in electronics for many years. Below, on the left, is a photo of many different style crystal oscillators. The crystals are within the metal enclosures so they can be used in different electronic designs. Notice that all of these crystal oscillators have at least two electrical connections so alternating (AC) or Direct (DC) current can be put into them to produce the desired frequency output.



In their description of the Crystal filled hand-cylinders they mentioned that **“the charge distribution matrix within the quartz crystals and minerals is symmetric and the net electrical potential is zero.”** This statement is correct and **"piezoelectric"** crystals are always in a neutral state or do not produce any voltage and current until mechanical pressure or stress is applied to them. The applied pressure then distorts the crystals creating a positive voltage on one side of the crystal and a negative voltage on the other side of the crystal. This applied pressure makes them like work like a battery, as shown above, which has a positive and a negative. If the reader still does not understand where their design flaws are we will now explain and scientifically show how the Crystal filled glass hand-cylinder design flaws actually nullifies all of their claims about how they work. The reader will also see how some of these design flaws or mistakes can never be fixed.

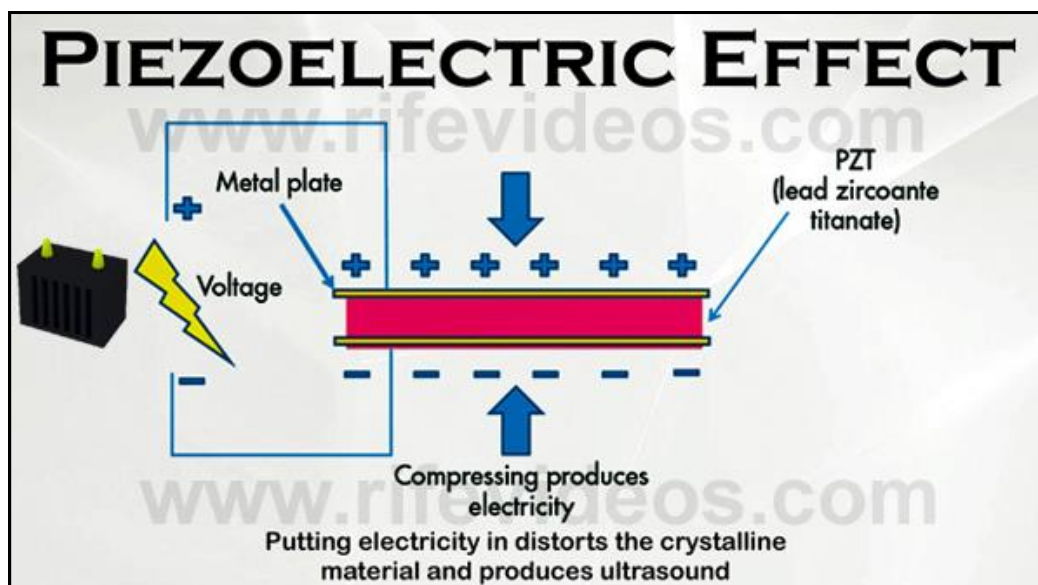
Everyone understands that if you take a battery, which has a positive and negative charge, and then immerse it into a conductive liquid such as water or a silver saline solution there would be a direct electrical short between the positive and the negative side of the battery. This is one of the fatal design flaws they made with their Crystal filled glass hand-cylinders. The **"conductive saline/silver solution"** they use inside the Crystal filled hand-cylinders creates a permanent **"electrical potential zero"** neutral state. Their **"conductive saline/silver solution"** is like having an electrical wire permanently connected between the positive and negative sides of the crystals. Because the crystals are in a neutral state until pressure or stress causes them to produce electrical current, then if any electrical current is produced, the **"conductive saline/silver solution"** creates a direct short between the positive and negative sides of the crystals. This **"conductive saline/silver solution"** makes it so no electrical current or ultrasound frequencies can ever be produced from the crystals.

This simple explanation is why this flaw is one of the fatal flaws that nullifies every claim the manufacturers have made in their **"theory"** regarding how their Crystal filled hand-cylinders work. This fatal design flaw can never be fixed regardless of what they do. With this design, there is no way to separate the positive and negative sides of the crystals. Many people who purchase these Crystal filled hand-cylinders do not understand this simple fact until it is pointed out. If they did understand it they would never purchase them. It is apparent that whoever came up with this design has no understanding of how electrical voltage and current works.

We will now explain in greater detail how this single fatal design flaw affects every scientific claim they have made for their Crystal filled hand-cylinders. Since they are trying to produce ultrasound



frequencies from every crystal (many hundreds) within the Crystal filled hand-cylinders then the alternating (AC) electrical current must be put into the positive side and negative side of every crystal (many hundreds) in order to produce the ultrasound frequencies. In order to put current into any piezoelectric property, you must have a metal plate or wire connection on the positive side and the negative side of every crystal as shown in the below piezoelectric effect diagram. Having no wires connected to every crystal is their second fatal design flaw.

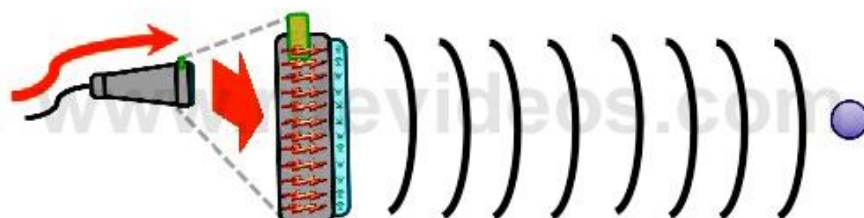


Since every crystal within the Crystal filled glass hand-cylinders would need to have a set of metal plates and wires connected to them then you would have to put two plugins into each of the Crystal filled hand-cylinders, instead of just one, in order to apply the alternating (AC) electrical voltage and current to the positive and negative sides of each crystal to produce the ultrasound frequencies. But if this was done the "**conductive saline/silver solution**" would still create a dead short because the alternating (AC) current going into the negative and positive sides of the crystals would all be immersed in the same liquid solution together creating a short. The crystals cannot be immersed in any conductive saline solution or there will always be a dead short between the positive and negative sides of the crystals. This would be no different than dropping a hairdryer into a bathtub full of water and then claiming it is not going to create a direct short.

Below is a another ultrasound transducer diagram. Each crystal has alternating current going into them which requires two electrical wires, one connected to the positive and the other connected to the negative side of each crystal. There is no "**conductive saline/silver solution**" used in these transducer designs or there would never be any ultrasound frequencies coming out of them.

## Ultrasound Fundamentals

An ultrasound beam is generated within the ultrasound **probe** by the **piezoelectric effect**, which is the production of a pressure wave when an applied voltage deforms a crystal element.



Below are two photos showing ultrasound transducers that use crystals. You will notice in the photo on the left the transducers have a red positive wire and a black negative wire. If they were put into a **"conductive saline/silver solution"** they would immediately short out and produce no ultrasound frequencies. The photo on the right shows a sealed transducer using shielded wire which can go into any conductive saline solution and still produce ultrasound frequencies.



It is apparent that whoever developed this Crystal filled glass hand-cylinder design should have taken some basic electrical 101 courses because these design flaws are simple to understand for anyone once it is explained to them. Dr. Rife's two partners, John Crane and John Marsh developed the use of the metal electrodes or metal hand-cylinders. In chapter 18 we discussed how "conduction" and "induction" works including how metal is a superior conductor of electricity (frequencies) than glass through direct contact. If you have not read chapter 18 we suggest you read that information in order to better understand this chapter.

With the original metal disks that were later changed to metal hand-cylinders the alternating current (AC) goes into the body through the right and left metal hand-cylinders, with no "conductive saline/silver solution" between the two cylinders, which does not create any type of electrical short. The "Conduction" method will not work with the Crystal filled hand-cylinders to produce ultrasound frequencies because each glass hand cylinder does not have two electrical connections for the (AC) alternating current. Also, even if they did have two connections the **"conductive saline/silver solution"** and the **lack of sealed electrical wires** connected to the positive and negative sides of all the crystals would cause a short between the positive and negative sides of the crystals within each individual glass hand-cylinder. All of these design flaws of using (1) a **"conductive saline/silver solution"** (2) **no double connection for each crystal filled glass hand cylinder** (3) **no sealed electrical wires to the positive and negative sides of every crystal** keeps the crystals in a **"Permanent Fixed Neutral State"** with the **"Electrical Potential"** at **"Zero."** What we have just explained is why scientifically all of their claims about ultrasound frequencies are nullified by these design flaws.

Because of these flaws the only thing the Crystal filled glass hand-cylinders will output is the frequency that is put into them from a frequency generator. This is how Metal hand-cylinders work. But the Crystal filled glass hand-cylinders have another major flaw in their design that needs to be discussed. They put the crystals into glass or plastic cylinders. Glass or plastic is an insulator and a dielectric. If a plasma gas is not used within the glass cylinders then the insulating properties of the glass will greatly reduce the power output that is put into them from a frequency generator. Almost everyone understands glass is not a good conductor of electricity and this fact does not change when using the "Conduction" method of delivering frequencies even with the silver saline solution inside of them. To show that this statement is correct we made a video showing the enormous power loss when using glass as a conductor of electricity with this design.

As you watch this video you will see the frequency generator voltage output is about 60 volts being put into both the Crystal filled glass hand-cylinders and the Metal hand-cylinders. But the voltage measurement on the surface of the glass of the Crystal filled glass hand-cylinders is only about 1.5

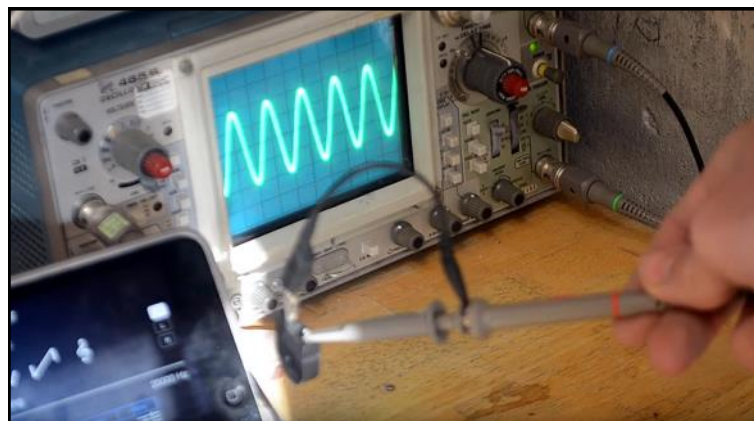
volts peak. This is a loss of about 58.5 volts or a 97.5% loss in voltage. But the voltage on the surface of the Metal hand-cylinders is still about 60 volts showing no real voltage drop. This is why metal hand-cylinders are superior electrical conductors. Click on the link or photo below to watch the Oscilloscope 1000 Hertz square wave into the Crystal filled glass Hand-Cylinder test video.

[https://rifevideos.com/Video/mp4/oscilloscope\\_1000\\_hertz\\_square\\_wave\\_test.mp4](https://rifevideos.com/Video/mp4/oscilloscope_1000_hertz_square_wave_test.mp4)

If you watch the video then you can now understand why using glass with the Crystal filled hand-cylinders is also another very serious design flaw. People need to receive the full power output of a frequency generator. The original "Pad" frequency generator that John Crane and John Marsh used only output about 12 volts peak and Dr. Rife did not like that low 1/10th (0.10) to 1/5th (0.20) of 1-watt power level. This should make everyone wonder what Dr. Rife would think about only a 1.5-volt power output level.



This power video we made also shows another fact that the crystals in the Crystal filled hand-cylinders are not producing any ultrasound frequencies. In the third video about piezoelectric crystals, at 3 minutes into the video, they show that when you put a square wave frequency into a piezoelectric crystal the oscilloscope shows that you only get a sine wave out. On the right, is a photo taken from the video at 3 minutes showing this fact.



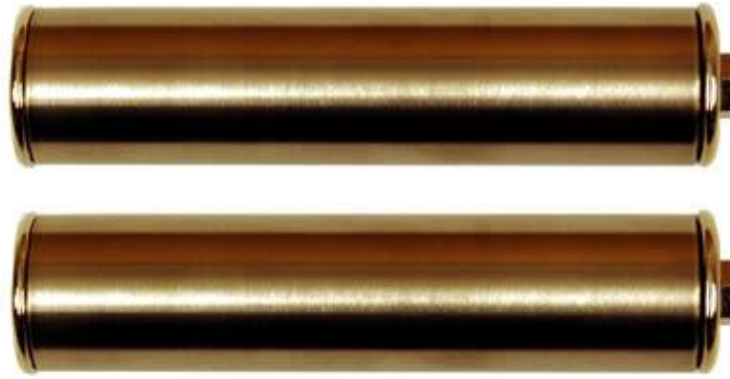
If the square wave frequency was actually going into the crystals, as claimed, the oscilloscope in our video should have shown a sine wave coming out, but it only showed a square wave. This shows that no frequency is going into the crystals or coming out of them because of the design flaws. What is really happening is the frequency is only going into the "**conductive saline/silver solution**", and coming through the glass at a very low power level of only 1.5 volts instead of 60 volts. As mentioned before the glass is both an insulator and a dielectric and it is the insulating properties of the glass that causes the enormous power loss which will keep a person from getting any real benefit when using the "Conduction" or contact method with any type of glass conductor.

Here is the last claim about the Crystal filled hand-cylinders that needs to be discussed. Quote:

**Crystal Generators:** *"The Crystal Generators, it is reported, will provide an overall increase of 200% greater immune building, and a 300 to 400% health and wellness boost beyond the capabilities of the steel electrodes. They may effectively be applied in either the "Direct" or "Broadcast Mode."*

You may have noticed they claim, but give no scientific proof other than "**it is reported,**" for this 200% to 400% health and wellness superiority above metal hand-cylinders. They also claim that these Crystal filled glass hand-cylinders can broadcast frequencies just like a plasma tube or a properly tuned metal antenna. But when we measured them the only way any frequency could be read from them was by direct contact with the glass. If they really did broadcast any frequency no contact with the glass would have been necessary. This fact eliminates their incorrect "**Broadcast Mode**" claim.





To be fair, this same false broadcast mode claim has also been made for metal hand-cylinders by some people. Metal hand-cylinders have their limits and are not long enough at 5 to 6 inches to work like a metal antenna used with CB radios and Walkie-talkies, therefore, this eliminates this same broadcast mode capability as some have claimed. Metal hand-cylinders must be in contact with the user's skin in order to work correctly.

Since the frequency output from a frequency generator is the only frequency that is being put into the Crystal filled glass hand-cylinders with no ultrasound frequencies coming out, except those that are put into them, then their claim is not correct. Also, the voltage that was measured dropped from 60 volts down to 1.5 volts which is a 97.5% power drop and this should make anyone wonder how they can claim to have an **"overall increase of 200% greater immune building, and a 300 to 400% health and wellness superiority capabilities above metal hand-cylinders."** It appears these claims are only sales-hype based on no real scientific proof. The tests and science do not support their claims. All of these tests and the power levels measured clearly show that these Crystal filled glass hand-cylinders cannot produce ultrasound frequencies or broadcast frequencies like a plasma tube or deliver the full power output from a frequency generator.

In order to fix the design flaws, the crystals would have to be removed from the glass cylinders out of the **"conductive saline/silver solution"** which keeps them in a permanently neutral state. Doing this would also keep the crystals from shorting between the positive and negative sides of the crystals if physical pressure was applied to produce electricity. Then all of the crystals would need to be cut on the correct angle and have two metal plates attached with wires so that each crystal had a positive and negative connection like an ultrasound transducer does. Each crystal would also have to be sealed so there wouldn't be any electrical short. Even if you did this and you again put the crystals back into the glass cylinders with the **"conductive saline/silver solution"** you would still lose about 97.5% of the power output because glass is an insulator. It is for all of these reasons their design flaws can never be fixed unless the **glass cylinders** and the **"conductive saline/silver solution"** are removed from the design. Then, of course, you no longer have Crystal filled glass hand-cylinders. A person would be better off using metal hand-cylinders and not waste their money. Metal hand-cylinders are less the \$50 a set but crystal filled glass hand-cylinders are from 175\$ to \$300 a set.

In chapter 18 of the "Rife Machine Report" we discussed how "conduction" and "induction" works including how metal is a superior conductor of electricity (frequencies) than glass through direct contact. If you have not read chapter 18 we suggest you read that information in order to better understand this chapter. Of these two different methods, the videos you have watched show metal is a superior conductor of electrical voltage and current than glass when it comes to direct contact. You never hear that someone was electrocuted by touching glass.

It is important to understand that every frequency that Dr. Rife used was measurable and readable with an oscilloscope. His frequencies covered from the audio range to about the 18 million Hertz or 18 Megahertz range and are always readable with electronic test equipment. All ultrasound frequencies

are also readable. The reason it is important to understand that all of Dr. Rife's frequencies were measurable and readable, including ultrasound, is that there are some people who make these crystal filled hand-cylinders that claim they are using a superior method of delivering frequencies, which is neither measurable nor readable. This would be like purchasing a frequency generator and then taking it to an electronics company for testing only to find out that the frequency generator is not outputting any frequencies. But when the manufacturer is contacted they claim their frequency generator is working, but on a superior method which is not readable or measurable. Anyone would know, at that very moment, the company which sold them the frequency generator was dishonest.

The reader should also understand that all frequencies have an electromagnetic field even though the manufacturers of the Crystal filled hand-cylinders incorrectly claim **"there is neither an electric field nor a magnetic field associated with sound or ultrasound oscillations, vibrations, or waves"** output from their "Crystal filled hand-cylinders." They call them Crystal Generators but we have shown they do not actually generate or produce any frequencies because of the design flaws made in their construction. It is actually the frequency generator they are connected to that produces the frequency or frequencies they output. This is why they are not really Crystal Generators.



They say a picture is worth a thousand words. Power measurement videos were made so the reader can see real power tests comparisons of Metal Hand-Cylinders to Crystal Filled Glass Hand-Cylinders. This first video demonstrates that metal conductors, such as Metal hand-cylinders, are almost 100% efficient. In the two photos above are Watt Meters. The one on the left is the MFJ-849 digital readout Watt Meter and the other on the right is the MFJ-872 needle style Watt Meter. The digital readout watt meter will be used to measure the RF or Radio Frequency power output level from the frequency generator and then the power level will be measured on the surface of the metal hand-cylinders. You will notice that the power level only drops from 5.16-watts to 4.94-watts. The "FWD" or Forward reading represents the power output in Watts with all Watt Meters. Click on the link or photo below to watch the Watt Meter Metal Hand-Cylinder power test video.

[https://rifevideos.com/Video/mp4/watt\\_meter\\_metal\\_hand\\_cylinder\\_power\\_test.mp4](https://rifevideos.com/Video/mp4/watt_meter_metal_hand_cylinder_power_test.mp4)



The next video is also very revealing. It shows both the "Crystal filled glass hand-cylinders" and the "Metal hand-cylinders" are both connected to the same positive and negative output of the frequency generator. The power output is measured using the MFJ 849 digital readout Watt Meter which can read power levels as low as 0.05-watts or 1/20th of 1-watt. If the power levels are less than 0.05-watts the meter will read 0 (zero watts) output. With this understanding, the power output is first measured on the surface of the "Metal hand-cylinders" which reads a 4.72-watts output. Then the power output is measured on the glass surface of the "Crystal fill glass hand-cylinders" which reads 0-watts output. This 0-watts output reading is because the power output level is less than 0.05-watts on the surface of the glass because glass is both an insulator and a dielectric. Most people use wet cloth covers when using "Metal hand-cylinders" for higher conductivity. These wet cloth covers were put onto the "Crystal fill glass hand-cylinders" in order to increase the conductivity so the power output level could be read. Since glass is both a dielectric and an insulator it will allow a small amount of electrical current to pass through it and the wet cloth covers will increase the conductivity to a level that is readable by the watt-meter. With this explanation, you will then see we measure the power level touching the wet cloth covers and the power output level is about 0.36-watts or 1/3 of 1-watt. This shows that the power level dropped from 4.7-watts on the surface of the "Metal hand-cylinders" down to 0.36-watts or 1/3 of 1-watt on the surface of the wet "Crystal filled glass hand-cylinders." This means there is a 13 times power level drop between a metal conductor and a glass conductor.

As the video continues, an oscilloscope is used to measure the voltage on the surface of the glass of the "Crystal filled glass hand-cylinders" which only reads about 1.7 volts or a 29.4 times voltage drop from metal to glass. Next, the voltage level is read from the wet cloth covers and it reads about 6 volts. Then the voltage on the surface of the "Metal hand-cylinders" is read at about 50 volts. This is an 8.3 times voltage drop from metal to glass. Both voltage and current determine watts of power and this is the reason we used a wattmeter to measure the power output levels. Since the majority of the people that use these "Crystal filled glass hand-cylinders" never use wet cloth covers they would never receive even 1/3rd of 1-watt of power. The power level they actually receive is probably around 0.05-watts or 1/20 of 1-watt instead of the full 4.7 watts the frequency generator is outputting. With this understanding of what to look for when watching the video click on the link or photo below to watch this video.

[https://rifevideos.com/Video/mp4/watt\\_meter\\_oscilloscope\\_metal\\_and\\_crystal\\_hand\\_cylinder\\_power\\_test.mp4](https://rifevideos.com/Video/mp4/watt_meter_oscilloscope_metal_and_crystal_hand_cylinder_power_test.mp4)



Since metal is a superior conductor than glass no claims are necessary or needed for "Metal hand-cylinders" because they work 100% on the scientific law of "Conduction." In other words, whatever the voltage, current or watts that are output from a frequency generator will be what is delivered to



the person using the "Metal hand-cylinders" from their direct contact when holding them. This is not the case with the Crystal Generators or Crystal filled glass hand-cylinders, and the video tests you watched clearly verify this fact. If "Crystal filled hand-cylinders" were actually 100% efficient and worked as claimed they would be worth using but their design flaws make this impossible. When people come to understand these facts they always choose metal over glass for any direct contact use. The "broadcast mode" should never be used because the user will receive nothing but the "placebo effect." We realize some people really believe in these so-called "Crystal Generators" but the majority of the people using them get no positive results and this is because of the design flaws that are easily understood. Piezoelectric crystals cannot work using the incorrect design they use with these "Crystal filled glass hand-cylinders."

**CHAPTER SUMMARY:** "Crystal fill glass hand-cylinders", because of their design flaws, do not create any ultrasound frequencies from any frequency put into them. The only frequency they output is the frequency put into them from a frequency generator. The power loss from using glass or plastic cylinders is almost 13 times. The "Metal hand-cylinder" design used by John Crane and John Marsh is a superior design with almost a 100% power transfer capability.

In chapter 22, we will discuss how "Hand-Held Ray Tubes" work and how their small size greatly limits the power output.

## Chapter 22

### Hand Held Ray Tubes



In this Chapter we will scientifically show, using Wattmeter measurements, how small "Hand-Held Ray Tubes" cannot scientifically output the 30-watt power levels claimed and still be held in the hands of the user. Most people do not understand there is a significant difference between using "Metal Hand-Cylinders" and small "Hand-Held Ray Tubes". In Chapter 17 of this report, we scientifically showed how the "Skin Effect" of a metal conductor does not scientifically apply to human tissue. In Chapter 18 we scientifically showed how "Conduction" or the contact method (metal hand-cylinders) and "Induction" or the non-contact method (plasma ray tubes) work on different scientific principles. In those chapters, we scientifically showed that metal is a superior conductor of electrical current when compared to glass. In chapter 21 we again proved using an oscilloscope that metal is 97.5% more conductive than glass. If you have not read those chapters we suggest that you read them so you will better understand this chapter.



It is important to understand that Dr. Rife never use metal hand-cylinders or hand-held ray tubes. Other people developed these two methods and we will discuss this later. Now let's consider the concept of holding two small hand-held glass ray tubes. We use the word small because they have about 30 times less volume of plasma gas in them when compared to the larger ray tubes that Dr. Rife used. All ray tubes whether they are the single type used by Dr. Rife or the double type, such as small hand-held ray tubes, can work on the contact and non-contact method. The single ray tube method used by Dr. Rife can work on both methods but at a different percentage ratio. Dr. Rife's single ray tube was not meant to be held in the hands, but if you do hold it in your hands about 3% to 7% of the energy will be transferred through direct contact to you or the person holding the single ray tube. This is a measurable voltage drop using an oscilloscope. In order to increase it to 7%, a grounding mat must be used. Because small hand-held glass ray tubes alternate the electrical current or power back and forth between the two ray tubes this reversing of the polarity creates a strong magnetic field between the two hand-held ray tubes which changes the power percentages to about 47% through "Conduction" or direct contact and about 53% through "Induction" or the non-contact method.

This reversing of the polarity or electrical current back and forth between the hand-held ray tubes is no different than using metal hand-cylinders with AC or alternating current. Because the current is alternating back and forth between the two metal hand-cylinders the power or voltage and current go into the body of the user. Where the big difference is, metal hand-cylinders work 100% on

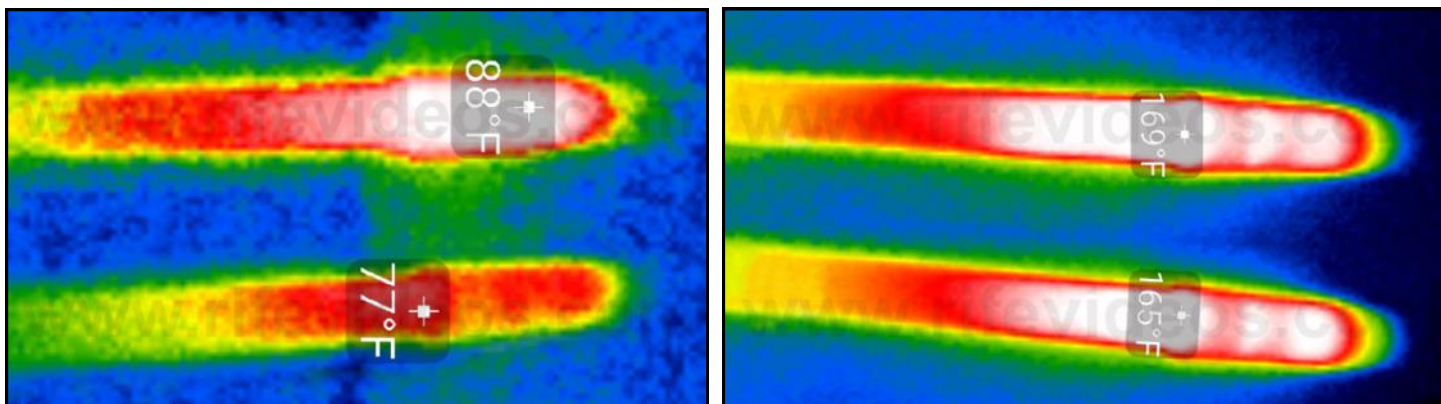
"Conduction" or direct contact with the skin and 0% through "Induction" or the non-contact method. This is easy to understand since the only way you can be electrocuted is if you actually touch a metal conductor or wire.

We mentioned earlier in this chapter that Dr. Rife never developed or used hand-held ray tubes. It was Ed Skilling back in the early 1980s that developed the first hand-held ray tubes. He stated that his hand-held ray tube circuit only output about 2-watts. This was back when no frequency generators were using an RF carrier frequency and they were limited to only low audio frequencies which can be felt by the user. Because of this limitation, power levels were limited with audio frequencies to no more than 1/10th to 1/20th of 1-watt. This meant that Ed Skilling's 2-watt small hand-held ray tube instrument was 10 times more powerful than any other instrument, even with the 53% loss due to the fact that glass is both a dielectric and an insulator. Chapter 18 of this report covers this dielectric information. Today RF carrier frequencies are used which allows up to about 20-watts of power to be used with the metal hand-cylinder method.

Ed Skilling found that his hand-held ray tube's power output was limited because of the plasma tube gas volume. Some claim that their hand-held ray tubes are able to output 30-watts or more power, but this is scientifically impossible because they will become too hot for the user to hold in their hands. To demonstrate this fact a pair of these hand-held ray tubes were connected to a variable 3-watt to 200-watt plasma tube circuit. That circuit was set at 30-watts output measured with an MFJ-849 digital readout wattmeter. Before and after infrared photos were taken so the temperature could be read.

The first infrared photo, below on the left, shows the hand-held ray tubes after 5 minutes of their instrument running at full power with every setting at maximum output. Notice the highest temperature of their two plasma tubes is only 88 degrees.

The second infrared photo, below on the right, is with a 3-watt to 200-watt adjustable instrument set at a 30-watt output. It shows the temperature of their hand-held ray tubes after only about 40 seconds with a true 30-watts of power put into them with a 90% square wave duty cycle. Notice the hand-held ray tube with the highest temperature is 169 degrees and the other one is 165 degrees. This is too hot for anyone to hold in their bare hands.



These infrared photos speak for themselves and show the instrument power level of 30-watts or more output is not correct. The two hand-held plasma tubes will become hotter if they are run longer, but we did not want to damage the ray tubes. To be fair, metal hand-cylinders would cause RF burns to the user if this 30-watt power level was used with them.

Because of this infrared test and the results, it was apparent the 30-watts or more power output is incorrect. So a video wattmeter test was made to see what the real power output of the hand-held ray tube circuit was. A wattmeter is the most accurate method to use when doing a power test. The MFJ-849 digital readout wattmeter and MFJ-872 needle style wattmeter, shown below, were used in the test of the hand-held ray tube circuit. The MFJ-849 digital readout wattmeter is capable of measur-



ing power levels as low as 0.05 watts, even though MFJ only gives a minimum of a 1-watt power level in their technical paperwork. So these instruments are more accurate than stated at +/- 5%.



The MFJ-849 digital readout wattmeter test did not register any power output. This revealed the power output level of this hand-held ray tube circuit is less than 0.05-watts with +/- 5%, not the 30-watts or more power output level listed for the circuit. We did not expect the power level to be less than 10-watts. To verify this test we then again tested the circuit with the MFJ-872 needle style wattmeter and you will see it would only move the needle slightly above 0-watts. This confirmed the less than 0.05-watts output power was correct. Both wattmeters verify the power level measurement of less than 0.05-watts was accurate. Later in this chapter, you will see other video tests that show how well these wattmeters work in measuring power output. For this test, the square wave duty-cycle setting of the hand-held ray tube instrument circuit was put at maximum output. A plasma tube gas is very easy to light when using high voltage and this is why they are able to light the hand-held ray tubes with only about 0.04 watts. Click on the link or photo below to watch the wattmeter test video.

<https://rifevideos.com/Video/mp4/wattmeter hand held ray tube power video.mp4>



If you watched the video then you were able to see that the wattmeters did not measure the 30-watts output from the hand-held ray tube circuit. In fact, the circuit outputs less than 0.05 or 1/20th of 1-watt. This low power output is the reason the infrared temperature photo above of the hand-held ray tubes only shows 77 degrees and 88 degrees. How they measured the power output of this hand-held

ray tube circuit at 30-watts we do not know. It certainly was not done with any wattmeters that would give an accurate power measurement. We tested a second hand-held ray tube instrument to verify our measurements and found they were correct. Below is a photo of that second test.



Another problem with small hand-held ray tubes is they are made of glass which is both a dielectric and an insulator. The power loss through glass is about 53% through "Conduction" or the contact method with using a plasma gas with this method. This fact means if you only have 0.04-watts power output then the user will only receive about 0.02-watts of that 0.04-watts. This is the reason why metal hand-cylinders work better because they will deliver almost 100% of the power output of a circuit through "Conduction" or the contact method. People want the maximum amount of power for the best results, not the least amount. Hand-held ray tubes are not any better than the "Crystal filled glass hand-cylinders." Both of these methods only deliver a fraction of the amount of power to the user instead of almost 100% as with metal hand-cylinders.

As mentioned before, Dr. Rife only used a single ray tube which was at least 6 inches in diameter or larger. It was Dr. Rife's two business partners, John Crane, and John Marsh, who made and used the first metal style electrodes for use with frequency generators. They were called contact "Pad" instruments. In the two photos below you can see the first round metal disk style electrodes they used. Later people replaced the round metal disks with metal hand-cylinders which are easier to hold in your hands. They also made and used metal footplates.





Dr. Rife did not even like metal disks for delivering the frequencies. Not because this method did not work, but because of the limited power that could be delivered using only low audio frequencies without an RF carrier frequency. John Crane and John Marsh recognized this low power drawback and found this method only worked on small areas of the body. Dr. Rife's plasma ray tube instruments used an RF or radio frequency carrier with low audio frequencies. His ray tube could also output higher RF frequencies. The higher RF frequencies were mixed with the RF carrier frequency and output through the ray tube. His 1934 Rife Ray #3 was a 50-watt instrument and the Rife Ray #5, which was the only instrument sold to doctors and the public in 1938 and 1939 was a 75-watt instrument. The 1950s version of this instrument output 50-watts but was capable of 75 to 150-watts.

As mentioned before, John Crane and John Marsh did not use an RF carrier frequency with their metal disk or metal hand-cylinder instruments. Because of this they were limited to about 1/10th (0.10) to 1/20th (0.20) of 1-watt power output. Most people can only handle about 1/10th (0.10) of 1-watt. Even today these very low power levels are still being used by many so-called "Rife Machine" manufacturers with the same limited power level and the same limited results. Here is Dr. Rife's statement taken from his attorney's 1970's interview which clearly shows he did not approve of this very low power level. Bertrand Comparet was his attorney in both the 1930s and 1950s. This statement was taken from a 1970's interview of Bertrand Comparet. We quote:

**COMPARET:** *"And I asked Rife, because I thought Rife would certainly say that the way Crane was working on it then [metal disks] was still using the Rife principle, but he indignantly denied it."*

**HUBBARD:** *"All right, I see. But, getting back, you say that Rife was very indignant, that the machine that Crane was building was really his [Cranes] idea. I suppose he did not compromise on that, did he?"*

**COMPARET:** *"Oh no, he just blew up."* ([1970's Bertrand Comparet interview #32 & 40](#))

Consider this, if Dr. Rife didn't like this low 1/10th (0.10) to 1/20th (0.05) of 1-watt power level then what would he think of small hand-held ray tubes that output even less power than this? In about 2001 the first metal hand-cylinder frequency generator was made which used an RF radio frequency carrier. This made it possible to increase the power levels of contact type frequency generators up to about 5 watts and with amplifiers to about 20-watts. By the use of an RF carrier frequency the frequencies could no longer be felt by the user and would not cause the muscles to contract and painfully lock-up. This made it possible for contact type frequency generators to compete with powerful single plasma ray tube instruments.

Also, another simple fact should be considered. All radiant output devices such as light bulbs and plasma tubes are governed by the "Inverse Square Law" of power loss. Below is a photo of one type of plasma tube Dr. Rife used.





This law states that the intensity of an effect such as illumination or gravitational force changes in inverse proportion to the square of the distance from the source. This is how this law works with a 75-watt plasma ray tube or a 75-watt light bulb, but only when NO reflector is used on the backside of the plasma tube or light bulb. If you do not have a reflector then 1/2 of the illumination or energy from the power source (ray tube or light bulb) will not be reflected towards the user. This means you would lose 37.5-watts on the backside without a reflector. The other 37.5-watts going towards the user is divided by the distance-squared that the user is away from the light bulb or the ray tube. The math shows that if you are 2 feet away from the ray tube you square the number by multiplying the distance of 2 feet by itself which gives you 4. Then you divide the 37.5 by 4 which gives you 9.37-watts (with reflector you would get 18.75-watts). At 3 feet distance ( $3 \times 3 = 9$ ) you divide the 37.5 by 9 which gives you 4.16-watts (with reflector you would get 8.33-watts). This is why the use of a reflector is very beneficial.

These power output numbers show why a more powerful RF carrier 4 to 5-watt metal hand-cylinder frequency generator can compete with a ray tube instrument. As mentioned before, metal hand-cylinders work on "Conduction" or the direct contact method and they will deliver almost 100% of the measurable energy or voltage and current from a frequency generator output circuit to the person holding the metal hand-cylinders in direct contact with their skin. No other method will do this. The reason they will do this is that they are almost a perfect conductor. Think of it in this manner. Metal hand-cylinders are made of metal like the electrical wiring in your home.

The electric company delivers, by electrical wires, 220 volts to your breaker box so that you can run either 220 volts or 110 volts to your appliances. Because the copper wire used in your home is almost a perfect conductor the same amount of power or energy can be delivered to your home using electrical wiring. That electrical wiring is basically 100% efficient. For this reason, all of the power output from a frequency generator circuit will go to the metal hand-cylinders and will be received by the person holding the metal in their hands. So "Conduction" is direct contact with a conductor such as using metal-hand cylinders. For safety reasons when using "Conduction" or the direct contact method, the power level must be limited to no more than about 20-watts. To better understand how "Conduction" works we suggest that you watch this video about "Body Impedance" and it will make it easier to understand how frequencies work with metal hand-cylinder electrodes. Click on the link or photo below to watch the video.

<https://www.youtube.com/watch?v=047IML9ndPo>



Today metal hand-cylinders are usually made of two different metals, stainless steel or Copper. Some people promote the copper style because they believe that copper is more conductive than stainless steel. This is true but only if a 12 gauge stainless steel electrical wire is used over 1000 feet

long. The metal wires with the metal hand-cylinders are only about 5.4 feet long each and because of this fact, stainless steel hand-cylinders are equally as conductive as copper hand-cylinders, therefore, it does not matter which type of metal you use. The advantage of stainless steel is it does not tarnish like copper does, which means it does not require any extra care.

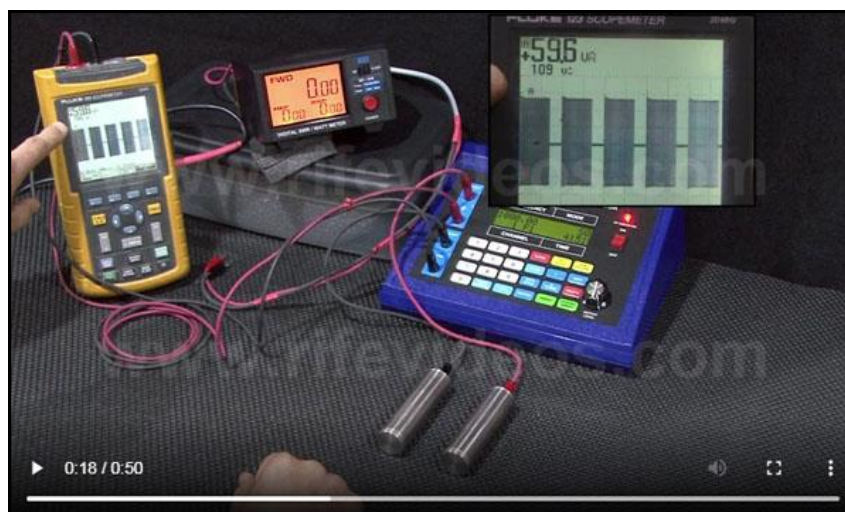
They say a picture is worth a thousand words. Power measurement videos were also made for using metal hand-cylinders so the reader could see real power tests done for this method. This first video demonstrates that metal conductors, such as metal hand-cylinders, are almost 100% efficient. The MFJ-849 digital readout wattmeter is used to measure the RF or radio-frequency power level output from a frequency generator and then the power level is measured on the surface of the metal hand-cylinders. You will notice that the power level only drops from 5.16-watts to 4.94-watts. The "FWD" or Forward reading represents the power output in watts with all wattmeters. Click on the link or photo below to watch the video.

[https://rifevideos.com/Video/mp4/watt\\_meter\\_metal\\_hand\\_cylinder\\_power\\_test.mp4](https://rifevideos.com/Video/mp4/watt_meter_metal_hand_cylinder_power_test.mp4)



The next video shows, by the use of a 20 Megahertz Fluke 123 oscilloscope, that metal hand-cylinders are almost 100% efficient when measuring the voltage. We measure the RF or radio-frequency voltage level output from a frequency generator and then the voltage level on the surface of the metal hand-cylinders. You will notice that the voltage level is about 60 volts for both readings. Click on the video photo below to watch the video.

[https://rifevideos.com/Video/mp4/oscilloscope\\_metal\\_hand\\_cylinder\\_power\\_test.mp4](https://rifevideos.com/Video/mp4/oscilloscope_metal_hand_cylinder_power_test.mp4)



Unlike hand-held ray tubes, these tests clearly show that metal hand-cylinders are almost 100% efficient in delivering the frequencies to the user. When it comes to metal hand-cylinders no claims are needed. Metal hand-cylinders work on 100% "Conduction" or the direct contact method. Whatever the voltage, current or watts that are output from a frequency generator will be what is delivered to the person holding them by their direct contact with the metal hand-cylinders. This is not the case with hand-held ray tubes. John Crane and John Marsh's method of using metal electrodes is superior to any other method except for the more powerful 50-watt to 500-watt single ray tube method used by Dr. Rife. Even if the small hand-held ray tubes could handle 30-watts, which they cannot, about 53% of the power will be lost because of the dielectric insulating effect of the glass. Metal will always be a superior conductor of electrical current than glass.

**CHAPTER SUMMARY:** "Hand Held Glass Ray Tubes" work on both "Conduction" or the contact method and "Induction" or the non-contact method. Because of their small size and heat dissipation they cannot output 30-watts. Power tests done with wattmeters on a claimed 30-watt instrument showed it actually output less than 0.05-watts.

In chapter 23 we will discuss how the Light stream Wand is not a Rife Machine and only outputs low audio frequencies.



## Chapter 23

### Is The Light Wand Really A Rife Machine?



Many people wonder, “Is the Light Stream Wand really a Rife Machine?” The answer to that question is no. This is due to the fact that it does not work on any of Dr. Rife’s machine principles. The information in this chapter is given so the reader can make up their own mind about the answer to this question. In some of the written advertising material about the Light Stream Wand, they claim that it is a Rife Machine, and in some of their other written material they claim it is not a Rife Machine. The two quotes below, show the contradiction in their claims.

1. *“Light Stream Devices are not Rife Machines.”*
2. *“The Worlds Most Advanced PEMF Rife Machine.”*

The reader can see that in one quote they claim that their Light Wand is a “Rife Machine” and in the other one, it is not a Rife Machine. We will actually show, by their own statements, that it is not a “Rife Machine” and it can only output 2 of Dr. Rife’s original frequencies. Anyone looking at the Light Wand can see that it is not a plasma tube, metal antenna or any other form of electrode used by the many so-called “Rife Machine” builders. So their method of delivering the frequencies with the Light Wand is not the method that has been used successfully for the past 62 years. The reader will quickly discover that, like many others, they are only using Dr. Rife’s name as a sales tool. Without his name their sales market for the wand would be so small they wouldn’t be able to sale very many of their instruments. This is the reason Dr. Rife said he did not want his name put on any machine.

In chapter 4 of this report called “Are Dr. Rife’s RF frequencies safe to use” we showed the proof that Dr. Rife’s use of radio frequencies and an RF radio carrier frequency was safe to use. If the reader has not read chapter 4 of this report, we suggest that you read it so you will know this important fact. This information is important because in the Light Wand written material they claim the radio frequencies and the radio frequency carrier method Dr. Rife used are not safe. Before we read their quotes we will here in this chapter again give some of the quotes from chapter 4 that establish Dr. Rife’s method was safe to use. The only reason they make these claims is to promote sales of their Light Wand, because they cannot compete with an RF Rife type instrument. Here are two quotes from Dr. Rife:

**RIFE:** *“I stood in front of that thing for thirty years finding these different [radio] frequencies that devitalize these different bacteria. And that thing [RF ray tube] was shooting on me right here [his chest], but it is absolutely harmless to normal tissue and each individual bacteria requiring a different frequency to devitalize.”* ([John Marsh Rife CDs](#)). [To listen to Dr. Rife's actual voice making this statement from the Rife CD's click here.](#)

**RIFE:** *"I have operated the frequency instrument since 1921. I have watched it advance in style and performance with the advancement of electronics. In the many years, I have used this equipment in my research, I have never suffered an injury or any ill effects whatsoever. I found it reliable in performance and efficient in results."* ([Letter from Dr. Rife to Dr. Justin Stein, July 2, 1956](#)).

The doctors back in the 1930s/1950s that used Dr. Rife's machines wanted the instruments tested for any harmful radiation before they would be willing to use them on their patients. Those tests were done which proved the instruments were safe to use. In 1958 a letter was sent to the Department of Public Health in California from "Radiation Detection Co." that tested the instrument. We quote:

**RAY TUBE DOCUMENT:** *"No X-Rays and No ionizing radiation are emitted by the X-Ray Tube [Plasma Ray Tube filled with Helium gas] while the discharge is taking place. Measurements are made close to the glass envelope of the tube both with a Nuclear Model 2611 Geiger-Muller Survey Meter, as well as with a sensitive Lauritsen Electroscop of the integrating type. No radiation above background was detected by either of these instruments.*

*Since this (Frequency Instrument) X-Ray tube contains some gas, a discharge occurs and the electrodes become hot. It must be emphasized, however, that energizing the tube under these conditions does not produce any X-Rays. As a physicist, I can state that this would have no significant effect upon any body placed nearby. This device is a low powered radio transmitter equipped with a "Ray Tube" which produces no X-Rays. Its construction is typical of radio gear, whose dials merely change audio-modulation frequency of the radio carrier. The instrument's construction is typical of radio transmitters and is not capable of producing any other known form of radiation.*

*The above information extracted from the reports by these outstanding sources and scientific laboratories proves conclusively that the Ray Tube envelope or any distance away from it, the Ray Tubes of the Frequency Instrument are SAFE TO USE on human patients or animals without limitations."* ([Signed: D.C. Kalbfell Ph.D, President, 16 Aug 58. Data for: Calif. State Board of Public Health, Berkeley, California](#)).

A follow-up letter from Radiation Detection Co. was sent to Mr. Frank Stead, Dept. of Public Health State of Calif. Berkeley on July 30, 1958. Here is a quote from that letter:

**RADIATION DETECTION CO:** *"As requested I have reviewed the information provided by your office on the AZ-58 Freq. Inst. from the view point of possible hazards from ionizing and or radio frequency radiations. Based primarily on the data given in the report of the 3D Testing Labs Inc. Material Engineering Report dated June 18, 1958, it is my opinion that the instrument does not produce hazardous quantities of ionizing and or radio frequency."* ([Letter from Francis R. Holden, PhD President Radiation Detection Co. to Mr. Frank Stead, Dept. of Public Health State of Calif. Berkeley](#)).

In 1972 John Marsh had the same type of test done on the ray tube at the request of the doctors who wanted to use his newer style ray tube instrument model JLMSQ-1A which replace the 1950's, AZ-58 model. The company that performed this test was the "AccureX Mobile Inspection Service Radiographic Laboratory." This company also used film to test for X-radiation and we have included photos of this film. All of the tests were performed at "Beach Aircraft Facilities." We quote from that document:

**ACCUREX:** *"Unit was energized for five (5) minutes at 2128 cps and monitored with Gieger Counter and Gamma Survey meter. No X-radiation registered. Film packets were placed in contact with the tube...and in various other points of contact within the console...and in contact with the power supply. The unit was energized for twenty (20) minutes. Film was developed for six (6) minutes at 20 degrees C in new Ansco Liquidol developer and new Ansco Liquifix fixing solution. After wash film was dried in normal procedures. No darkening of film due to X-radiation was shown. Film was clear. The conclusion*

is that unit...and its components DO NOT emit detectable X-radiation when checked with standard instrumentation." ([AccureX Mobile Inspection Service Radiographic Laboratory document.](#))

Click here for ([Film photos showing no X-Ray radiation.](#))

These quotes and the information which was given show that the RF radio frequencies and (RF) radio carrier frequency method Dr. Rife used was safe. Since all of Dr. Rife's frequencies, but two, were (RF) radio frequencies then how can the Light Wand that does not output any (RF) radio frequencies possibly be a "Rife Machine." In fact, the makers of the Light Wand condemn the use of the very frequencies and method Dr. Rife used, we quote:

1. *"We only use RIFE frequencies with deep pulsed magnetic waves, avoiding the controversial harmful radio waves as carrier waves."*
2. *"[The inventor] discovered that RIFE frequencies are not radio waves in themselves, and does not need to be carried by the controversial radio waves, thus it is safer to use with the Light Stream System while you still get the complete benefits from Rife frequencies!"*

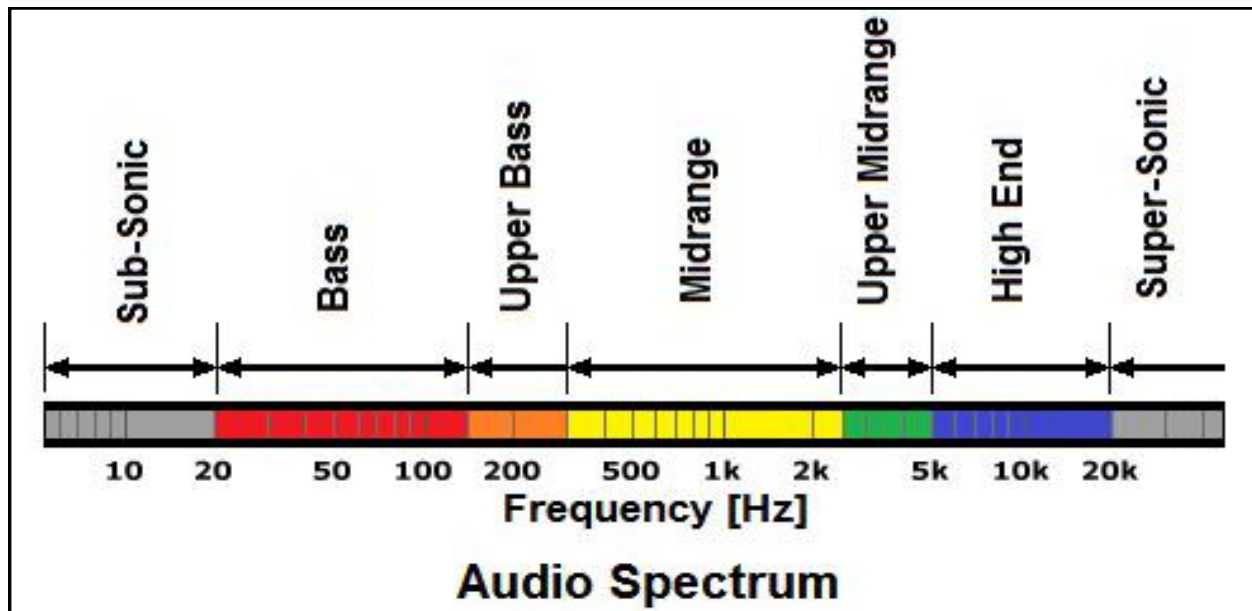
The inventor of the Light Wand without any scientific proof wants everyone to believe that he somehow "discovered that RIFE frequencies are not radio waves" even though all of them are in the radio frequency range, but two. The burden of proof is always upon the person or persons making the claim. In this case, they give no scientific proof, only just believe me because I say it is so. Dr. Rife spent over 30 years in his laboratory finding the frequencies that would devitalize microorganisms. He said he started in the low audio range and worked his way up through the various frequency ranges until he found a frequency that would devitalize a microorganism. Only 2 of the approximately 50 plus frequencies are in the audio range. All of the rest are in the (RF) radio frequency range. Those frequencies range from 15,779 Hertz to 17,033,000 Hertz or cycles per second. Below is a link to a page with Dr. Rife's (RF) frequencies.

### [Dr. Rife's True Original Frequencies](#)

People can make up whatever they want to believe, but this still will not change the fact that all of Dr. Rife's frequencies, but two, were radio frequencies. Unless a person has an instrument that can output Dr. Rife's radio frequencies they will not be using his frequencies. At the time of this writing, they have no actual written technical specifications for their Light Wand. You have to carefully go through their information in order to find what we found. The one thing that is known for sure is the Light Wand does not output any "radio waves." This means their Light Wand is only capable of outputting low audio frequencies from about 20 Hertz to about 20,000 Hertz. Here are their quotes that verify this fact:

1. *"The Light stream wand converts sound frequencies into an electromagnetic field with a radius of 3-6 feet around the device."*
2. *"We only use RIFE frequencies with deep pulsed magnetic waves, avoiding the controversial harmful radio waves as carrier waves."*
3. *"You will need an amplifier and CD player, DVD Player, or I-pad device to run this."*
4. *"You connect your i-pad or i-pod mini audio out to your amplifier and connect wand cable to your Left or right speaker out line!"*
5. *"Compressed the waves into the audible spectrum (20 to 20,000 hertz) of the human ear."*





Above is an audio frequency range graph covering this 20,000 Hertz frequency range. These five quotes clearly show that their Light Wand frequency range is limited to the low audio frequency range. They play music into the Light Wand so all audio frequencies are in this range. In fact, they sell many different frequency CDs sets and make all kinds of un-provable claims about their benefit.

We specifically used their own quotes, to show by their own words, that the Light Wand cannot output any of Dr. Rife's (RF) radio frequencies which he found for microorganisms. Regardless of what is claimed their Light Wand can only output two of the more than 50 plus Rife's frequencies. And yet they still make this claim. Quote:

*"10,000 wellness frequencies. The most Rife frequencies on any system."*

This claim is incorrect because all of the so-called Rife Machines have at least a 10,000 to 20,000 Hertz range. This means they do not have the *"most frequencies on their system."* Some of these instruments go up as high as 3 or 4 million Hertz and one goes all the way up to 20 million. Dr. Rife's laboratory notes show he was producing frequencies as high as about 18 million Hertz with his Rife Ray #3. His Rife Ray #4 had a frequency range that went to 22.5 million Hertz. It should be clear that this claim is incorrect and they are only using the "Rife Machine" name in their advertising in order to sell their Light Wand. They cannot, and do not have the capability to output more than 2 of Dr. Rife's original frequencies. We clearly again point out that they state this in their advertisements *"Light Stream Devices are not Rife Machines."*

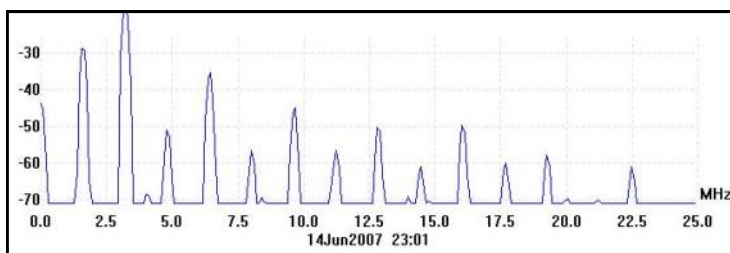
Dr. Rife only used three different waveforms sine, square and damped. The 1936/1939 Rife Ray #5 and the 1950s AZ-58 used audio frequencies and the waveform used with those audio frequencies was a square wave. Since music CDs are used with the Light Wand then it is doubtful that it is using a square wave waveform which was found to be the most effective waveform with low audio frequencies. With low audio frequencies, it is the square wave harmonics that make this waveform work so well.

What is really misleading is they have been making incorrect comparison videos of their Light Wand against many different so-called Rife Machines which can actually output most of Dr. Rife's frequencies. Anyone watching these comparison videos should contact the company that builds the instrument they are comparing their Light Wand against and give them a fair chance to give them the correct information about their instrument. Anyone who is really looking for a Rife type instrument is also looking for an instrument that has the capability of outputting Dr. Rife frequencies. Those instruments will either be using the proven metal hand-cylinder electrode method or the RF Plasma tube

method. The plasma tube is actually a plasma tube antenna that allows the frequencies to be broadcast through the air to the person receiving the frequencies. The plasma tube also eliminates the necessity of having a tuned antenna to output the frequencies. The glass also makes it safe because if you just happen to touch a metal antenna with 50-watts or more power output you could be seriously harmed or killed. So the plasma gas is very important when using high power levels. The Light Wand does not have this capability. It is apparent that the makers of the Light Wand do not understand the importance or real function of a plasma tube. This is apparent because they state the following about a plasma tube. Quote:

*“Plasma Transmission contains Inert Gas, not beneficial to health.”*

*“The plasma transmission..., not beneficial to health”* would only be true if you are using a low power metal electrode type of Rife instrument, since this style does not use a plasma tube. Another thing that the plasma tube produces is harmonics from the frequency that is put into it. In the spectrum analysis graph, shown below, you can see how the harmonics of 1,604,000 go up to over 20 million Hertz because of the plasma tube gas.



Icom 718 at 1,604,000 Hertz using antenna tuner and Ray Tube. Measured with spectrum analyzer showing harmonics all the way up to 22,000,000 Hertz (22 million Hertz). This shows that the plasma tube gas produces harmonics that a metal antenna or audio frequency “Wand” cannot produce.

It should be apparent to the reader the method of producing frequencies output by the Light Wand is not the method Dr. Rife used. Also, the audio frequency range used by the Light Wand does not produce the (RF) frequencies Dr. Rife used to devitalize the various microorganisms. It does not matter what they may claim, without any scientific proof, that the inventor *“discovered that RIFE frequencies are not radio waves in themselves.”* The fact is, all but two of Dr. Rife’s frequencies are *“radio waves”* and nothing can change this fact. Almost all of the claims that are made about the Light Wand have no scientific proof backing them. They also make many claims about Crystals since they use them, with and without the Light Wand. Below is a combination of their quotes, showing their many unprovable claims along with some very interesting beliefs:

*“The Light Stream System combines 5 powerful health technologies into one: Rife Frequencies, PEMF (Pulsed Electromagnetic Field), Phase-Conjugation Electromagnetic Vortex Fields, Piezoelectric Ruby, Tourmaline, Quartz Ions, and Quantum Restructuring Waveforms...Quantum Physics [or Quantum Entanglement]. This is the basis of modern PEMF technology. Nature's Healing at Your Fingertips: 122 Quantum frequencies. Over 10,000 powerful frequencies hidden in nature are now decoded and accessible to you...Stones have a great hidden purpose in nature. They possess a great untapped power. They have memory! Stones hold vibrations and they can transmit vibrations! Using a series of 5 quantum energy generators, we can now place religious or natural harmonic vibrations into stone, crystal or natural materials. These were not ordinary stones, but stones that stored spiritual vibrations. Through the years [the inventor] has had face-to-face encounters with Jesus Christ, Virgin Mary, Mary Magdalene, Archangel Michael, Celestial Beings and as well as many other ascended masters. He attains "samadhi", one of the highest levels of consciousness and spiritual awareness (an outer-body experience) almost on demand. It was through these visions and messages that have led him to the decoding of ancient technologies hidden in the Great Pyramids, the Ark of the covenant, and the Staff of Moses. Using quantum technology, we are able to put a zero-point energy conduit, healing or spiritual prayer vibrations in our jewelry. This jewelry carries a vibration that can scientifically be measured by anyone who touches it. Quantum Vibrational Jewelry is Energized and Treated with the elds of the Quantum Universe's Energy. These are our basic pendant designs with stone technology.”*

It is hard to even comment on these odd beliefs and claims. We will let the reader make up their own mind about many of them. We will only talk about Piezoelectric Crystals and Quantum Entanglement. Piezoelectric Crystals used in jewelry do not work the way they claim. To read all of the information about how Crystals can scientifically produce frequencies or electricity read chapter 21 and watch the video links. Crystals are always in a constant neutral state, and when they are in this state they cannot produce either electricity or frequencies. If they are put under mechanical pressure they will produce electricity. If a Crystal, cut on a specific angle, has metal plates with wires put on the opposite sides of the crystal, it can then produce frequencies. Without these metal plates and wires, nothing can be produced. Then electrical alternating current (AC) has to be put into the Crystal using the wires to produce ultrasound frequencies. If the electrical current is stopped, the Crystal stops producing the frequencies. This is scientifically how piezoelectric crystals produce frequencies. If their Crystal jewelry is not cut on the correct angle and has electrical (AC) alternating current put into it, then the jewelry will not produce any frequencies for the person wearing it. This is why their claims have no scientific basis about how Piezoelectric Crystals work.

Now we will discuss the science of Quantum Entanglement. “Quantum Entanglement” is real and is scientifically provable and measurable. But, how some claim it works is false. To read all of the information about how “Quantum Entanglement” scientifically works please read chapter 20 of this report and watch the video links. In a nutshell “Quantum Entanglement” is a **ONE TIME, ONE DIRECTION**, faster than light communication between atoms, electrons or photons. People claim that DNA is “Entangled” and that you can take a fingernail clipping that has a person’s DNA and treat the clipping with frequencies and the person will also be treated no matter the distance that separates the clipping from the person. The problem is some Rife manufacturers read a little information about “Quantum Entanglement”, without reading all of the scientific facts, and came up with a false belief that a frequency can bi-directionally sent back and forth through “Quantum Entangled” partials including DNA.

Had they actually studied all the facts they would have understood scientifically how it works. All of the scientific tests prove it is a **ONE TIME, ONE DIRECTION** communication that only happens one time. It cannot carry any useful information such as a frequency. The only information that is communicated between the two “Entangled” particles is their “angular momentum and orientation.” Once this information is sent from one particle to the other particle, the communication stops. This is why the “Quantum Entanglement” claims are false when it comes to Rife frequencies. People should read about this information before they accept this false thinking. We took the time to study all about “Quantum Entanglement,” also called “Spooky Action at a Distance” and put this information in this report so people will have the correct understanding so that they do not get fooled into believing an incorrect theory that is easily proven false

**CHAPTER SUMMARY:** The Light Wand is not a Rife machine as stated in their own words: *“Light Stream Devices are not Rife Machines.”* It only has the capability to output 2 of Dr. Rife’s 50 plus frequencies because those 50 plus frequencies are all (RF) radio frequencies. It only outputs audio frequencies as also stated in their own words: *“We only use RIFE frequencies with deep pulsed magnetic waves, avoiding the controversial harmful radio waves as carrier waves.”* All of the frequencies Dr. Rife used are in the lower safe (RF) radio frequency band covering the AM radio band up into the HAM radio band. Dr. Rife’s machines were laboratory tested to be safe to use on people. Their Piezoelectric Crystals and crystal jewelry cannot output frequencies as claimed. There are basic scientific laws that govern how crystals can produce frequencies and these laws must be followed in order for this to work. They do not follow those laws. “Quantum Entanglement” has been scientifically proven to exist but it does not work the way people claim. “Quantum Entanglement” of DNA is has been scientifically proven to be false because “Quantum Entanglement” is a ONE TIME, ONE DIRECTION communication between two entangled particles. Once this communication has taken place no further communication ever takes place again.

In chapter 24 we will discuss the differences in Dr. Rife’s RF method and the new EMF Method.



## Chapter 24

### Dr. Rife's RF Method or the EMF Method?



Dr. Rife's RF or Radio Frequency method has been used with plasma tube instruments from the 1920s until today. The contact metal electrodes or metal hand-cylinder method that does NOT use the RF or radiofrequency method has been used from 1957 to the present day. The contact RF or radiofrequency method that uses metal hand-cylinders has been used since 2001 to the present day. With the building of the no RF 1957 contact instrument by John Crane, and John Marsh there began the false belief that the high RF frequencies and RF carrier frequency method used by Dr. Rife weren't really needed because all of Dr. Rife's RF or radio frequencies were actually only audio frequencies.

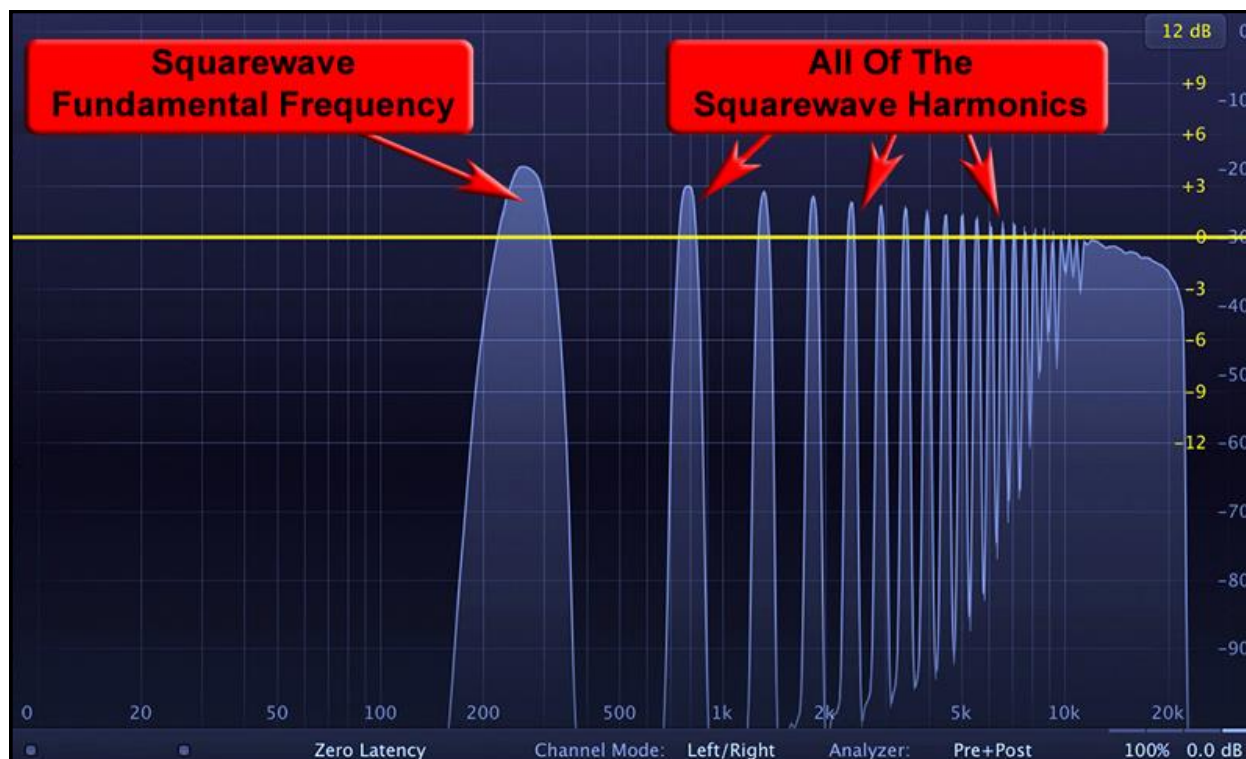
Because of this false belief that all of Dr. Rife's radio frequencies were actually audio frequencies, a few people back in the 1990s came up with a new idea of substituting the EMF or "Electro-Magnetic Field" method for the RF or radiofrequency method. The new EMF method does not use any RF frequencies or RF carrier frequency but uses high voltage coils to light the plasma gas in the Ray Tube. This new method also creates a very high "Electro-Magnetic Field" which has the capability of carrying the audio frequencies into the user. This field is the same high "Electro-Magnetic Field" that microwaves and high voltage electrical lines create, and which many people today are very concerned about. What most people do not understand is the RF method and the EMF method are two completely different delivery methods that work on different principles. Dr. Rife only used the RF or Radio Frequency method exclusively and all of his original microorganism frequencies, but two, were in the Radio Frequency band. The EMF or "Electro-Magnetic Field" method cannot output any RF radio frequencies because this method is limited to a maximum audio frequency range of about 20,000 Hertz. All of the EMF plasma machines available on the market output up to 10,000 Hertz, with only one capable of 20,000 Hertz. Because of this limit, this method cannot output even one of Dr. Rife's original RF radio frequencies that he used in his original 1920's/1950's machines. Many people have legitimately wondered how a machine that cannot output any of Dr. Rife's original RF frequencies, or use his RF method, can be a real Rife Machine? The answer to that question is, all EMF machines are not real Rife Machines. No EMF instrument builder likes this fact, but this will not change the truth. This Rife machine report was written to give the truth about Dr. Rife's machines and the methods he used.

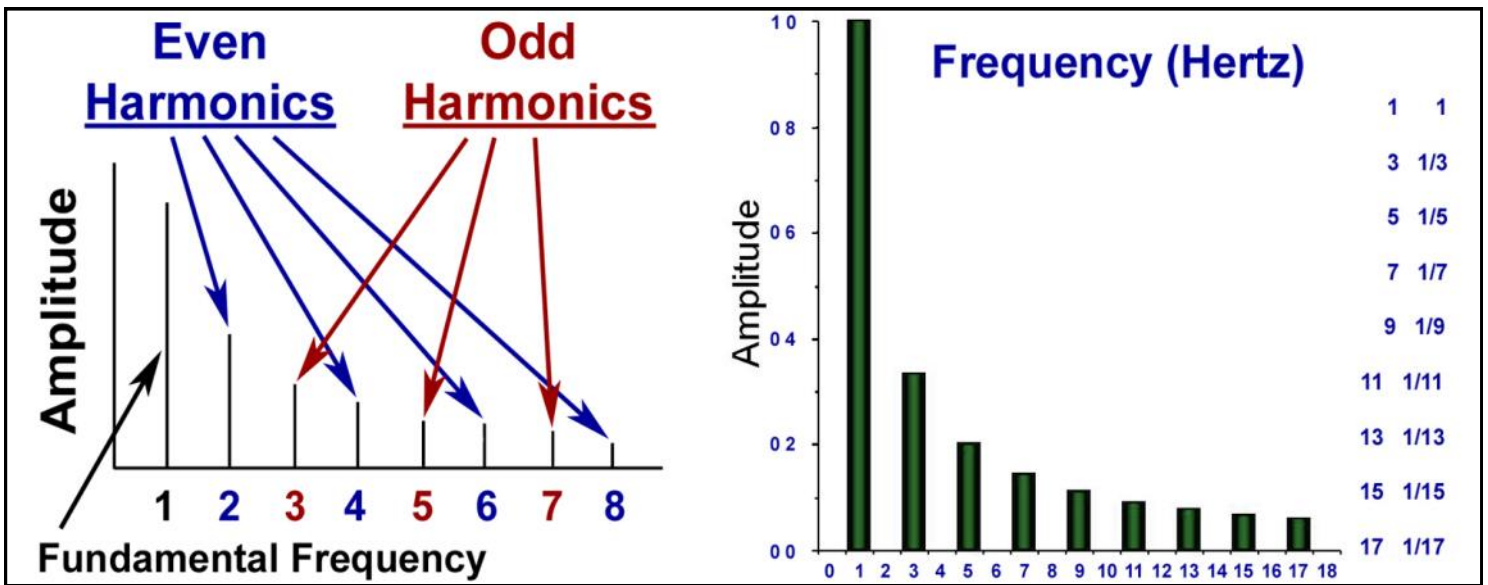
Anyone looking to purchase a machine will find that there are many so-called "Rife Machines" on the market that use a plasma tube. Those that are not RF plasma Ray tube instruments are called EM or EMF plasma Ray tube instruments. The person purchasing the instrument needs to specifically ask

which method is used because those who sell EMF machines usually will not tell you that their instrument is an EMF machine that cannot output any of Dr. Rife's RF radio frequencies. For the remainder of this chapter, we will call Dr. Rife's method the RF method and the other the EMF method.

Today all of the RF and EMF machines use the square wave waveform which started with the original 1936 Rife Ray #5 machine covered in chapter 9 of this report. But the Rife Ray #5 did not work on square wave harmonics, it worked on the "Harmonic Sideband Method." Harmonic sidebands are completely different than square wave harmonics. The harmonic sidebands method requires the use of an RF carrier frequency because the harmonic sidebands are produced from the RF carrier frequency. This harmonic sidebands method was proven to work in Dr. Rife's laboratory when the machine was built and tested in 1936. The Rife Ray #5 design was the only instrument design that has ever been sold to doctors. The 1950s AZ-58 was also this same design. An EMF instrument design cannot produce harmonic sidebands because they use no RF carrier frequency. The EMF design is completely dependent on square wave harmonics. Because of the use of the square wave waveform, it is implied by those who build EMF instruments that the EMF method can produce all of Dr. Rife's high RF frequencies through square wave harmonics that are produced from using the square wave waveform.

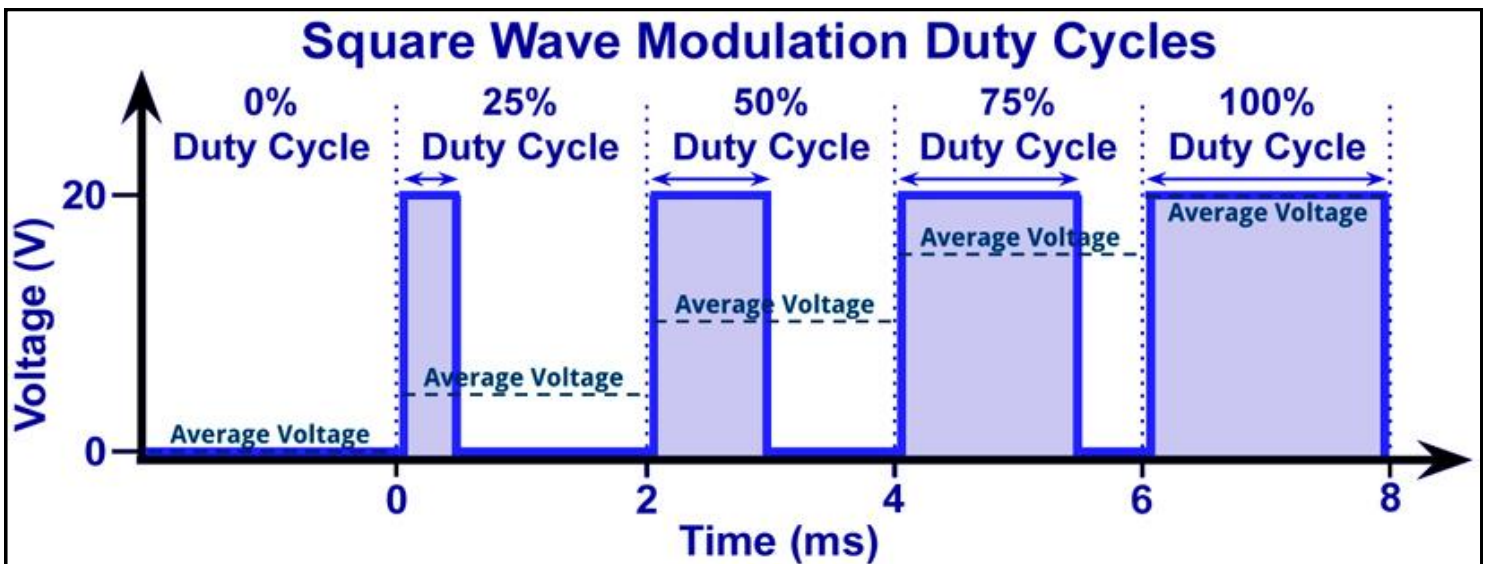
We will now discuss in more depth how square wave harmonics work. The square wave waveform produces harmonics that can go up as many as about 25 harmonic steps or higher before the power level reaches zero when measured with a spectrum analyzer. It is the power output capability of an instrument that determines how much power is in the square wave harmonics. Because of these harmonics, some manufacturers state that the square wave waveform can produce infinite harmonics that can reach any frequency, but this kind of statement is false. Yes, a square wave waveform can produce infinite harmonics, but only if you have infinite power, which is not possible. For this reason, in the real world, there is no such thing as infinite harmonics when using a square wave. Because of this fact, these harmonics drop off in power due to the power drop in each harmonic step. This simple fact is not explained so people get an incorrect understanding of how these square wave harmonics actually work. If you look at the photo below of a spectrum analyzer graph you can see how the power drops in each harmonic step. Notice after 17 harmonic steps using a 300 Hertz frequency the power level has dropped down to the yellow zero line, where there is no power left in the harmonics. RF harmonic sidebands work differently than square wave harmonics since they are closer to the desired RF devitalizing M.O.R frequency, and this method was proven to work on microorganisms in Dr. Rife's laboratory.





The above graph, on the left, shows that a square wave frequency can produce Even and Odd harmonics. Think of harmonics as “other frequencies” that are created from the fundamental frequency. In the above graph, on the right, you can see how the power level (Amplitude or dBc) drops in each square wave harmonic. Number 1 is the fundamental frequency at full amplitude or 1.000. Number 3 is the first of the odd harmonics and it only has 1/3rd (0.333) the power in it that the fundamental frequency has. In just eight odd harmonics at number 17, there is only 1/17th (0.058) of the power level of the fundamental frequency. Now, if the even harmonics were included in the graph then number 2 would have 1/2 (0.500) the power, number 4 would have 1/4th (0.250) the power, and number 18 would have 1/18th (0.055) the power in it. This demonstrates how quickly the power drops in the harmonics of a square wave frequency.

Below is a graph showing a 25%, 50%, 75%, and 100% square wave duty cycle. With a 50% square wave duty cycle only odd harmonics are created. But if you use a higher duty cycle than 50%, such as 60% to 100% then both odd and even harmonics are created. Also, you will notice in the graph below that the higher the duty cycle the greater the “Average Voltage” or “Average Power” output will be in the waveform. This is due to the On and Off time of the frequency. Off time is the amount of power that is lost when it is turned off. A 100% duty cycle has 100% of the power output in it, and a 75% duty cycle has 75% of the power output in it. The higher the duty cycle, the greater the power output in the square wave waveform. Below is a link to a video that shows how the square wave harmonics work including the odd harmonics that are created from a 50% square wave duty cycle. <https://www.youtube.com/watch?v=eC36AqL5mw8>





The problem with using low audio frequencies to try and reach Dr. Rife's high RF frequencies through square wave harmonics is if there is not enough power in the harmonic frequency then it will not resonate with the organism. In order to fully understand this square wave harmonic frequency power loss we will give a simple explanation using two of Dr. Rife's lowest radio frequencies for Anthrax and Streptothrix. Anthrax is 139,200 Hertz and Streptothrix is 192,000 Hertz. We will use the highest frequency below 10,000 Hertz to give it the lowest number of square wave harmonics to hit Dr. Rife's original frequency. Below are two photos of the harmonic calculator we used. The photo, below on the left, is for Anthrax and 9,280 Hertz was used. It is the 27th harmonic or 13th odd harmonic that hits the original frequency of 139,200 Hertz. The photo, below on the right, is for Streptothrix and 9,142.85 Hertz was used. It is the 21st harmonic or 10th odd harmonic that hit the original frequency of 191,999.85 Hertz (192,000). The calculator we used is at this link. <http://mustcalculate.com/electronics/harmonics.php?f=300>

**Harmonics calculator**  
 Calculates the harmonic frequencies of a fundamental frequency  
 Example 1: Must calculate the harmonics of a 16.384Mhz oscillator

Frequency  hertz

You may use one of the following SI prefix after a value: p=pico, n=nano, u=

Harmonic	Frequency	Wavelength
2nd harmonic	18.56 kilohertz	~16.152611 kilometers
3rd harmonic	27.84 kilohertz	~10.768407 kilometers
4th harmonic	37.12 kilohertz	~8.076305 kilometers
5th harmonic	46.4 kilohertz	~6.461044 kilometers
6th harmonic	55.68 kilohertz	~5.384204 kilometers
7th harmonic	64.96 kilohertz	~4.615032 kilometers
8th harmonic	74.24 kilohertz	~4.038153 kilometers
9th harmonic	83.52 kilohertz	~3.589469 kilometers
10th harmonic	92.8 kilohertz	~3.230522 kilometers
11th harmonic	102.08 kilohertz	~2.936838 kilometers
12th harmonic	111.36 kilohertz	~2.692102 kilometers
13th harmonic	120.64 kilohertz	~2.485017 kilometers
14th harmonic	129.92 kilohertz	~2.307516 kilometers
15th harmonic	139.2 kilohertz	~2.153681 kilometers

**Harmonics calculator**  
 Calculates the harmonic frequencies of a fundamental frequency  
 Example 1: Must calculate the harmonics of a 16.384Mhz oscillator

Frequency  hertz

You may use one of the following SI prefix after a value: p=pico, n=nano, u=

Harmonic	Frequency	Wavelength
2nd harmonic	18.2857 kilohertz	~16.394913 kilometers
3rd harmonic	27.42855 kilohertz	~10.929942 kilometers
4th harmonic	36.5714 kilohertz	~8.197456 kilometers
5th harmonic	45.71425 kilohertz	~6.557965 kilometers
6th harmonic	54.8571 kilohertz	~5.464971 kilometers
7th harmonic	63.99995 kilohertz	~4.684261 kilometers
8th harmonic	73.1428 kilohertz	~4.098728 kilometers
9th harmonic	82.28565 kilohertz	~3.643314 kilometers
10th harmonic	91.4285 kilohertz	~3.278983 kilometers
11th harmonic	~100.57135 kilohertz	~2.980893 kilometers
12th harmonic	109.7142 kilohertz	~2.732485 kilometers
13th harmonic	118.85705 kilohertz	~2.522294 kilometers
14th harmonic	~127.9999 kilohertz	~2.34213 kilometers
15th harmonic	137.14275 kilohertz	~2.185988 kilometers
16th harmonic	~146.2856 kilohertz	~2.049364 kilometers
17th harmonic	155.42845 kilohertz	~1.928813 kilometers
18th harmonic	164.5713 kilohertz	~1.821657 kilometers
19th harmonic	173.71415 kilohertz	~1.72578 kilometers
20th harmonic	182.857 kilohertz	~1.639491 kilometers
21st harmonic	191.99985 kilohertz	~1.56142 kilometers

Now let's take a look at the power level in these square wave harmonic frequencies. Because Anthrax is at the 15th harmonic it only has 1/15th of the power output of the Fundamental frequency of 9,280 Hertz. Streptothrix is at the 21st harmonic and only has 1/21st of the power output of the Fundamental frequency of 9,142.85 Hertz. The Rife Ray #5 power output was 75-watts. If we divide the 75-watts by 15 we get 5-watts in the Anthrax square wave harmonic frequency of 139,200 Hertz. With Streptothrix we would divide the 75-watts by 21 and that gives us 3.57-watts in that square wave harmonic frequency of 192,000 Hertz. Keep in mind that these are Dr. Rife's two lowest RF frequencies. When Dr. Rife first started testing frequencies with his plasma tube instrument the power level was only 8 to 10-watts output and this power level was only used for testing microorganisms under the slide of

the microscope. The BX cancer virus frequency is the 161st harmonic of 9,962.73 Hertz and if you divide 75-watts by 161 you get 0.46-watts in the square wave harmonic of 1,604,000 Hertz. The BY cancer virus is the 169th harmonic of 9,053.25 Hertz and if you divide 75-watts by 169 you get 0.44-watts in the square wave harmonic of 1,530,000 Hertz. This why the EMF method of producing Dr. Rife's original RF or radio frequencies using square wave harmonic frequencies will not work as claimed because the number of harmonics is too great a number. Unless people have this understanding they will not be able to make the correct decision when purchasing a machine. If a machine cannot produce Dr. Rife's frequencies through the proven RF method using a direct Fundamental frequency or through the harmonic sideband method its ability to devitalize a microorganism is very limited.

Because of how power is lost in the square wave harmonics no one should believe that an EMF instrument will work like Dr. Rife's high RF machines. If this method would have worked Dr. Rife could have used it because it would have been a lot easier to build this type of instrument. But this was not the case. People should be aware that no EMF machine can ever produce all of Dr. Rife's original high RF frequencies through square wave harmonics regardless of what is claimed. They can produce some of his frequencies which are less than about 500,000 Hertz by using this square wave harmonic method but above 500,000 Hertz it becomes very questionable. Because of these limitations EMF machines cannot output all of Dr. Rife's RF frequencies or work on his RF method of delivering the frequencies in the ranges he used. For most people, the sole purpose of purchasing a so-called "Rife Machine" is to be able to use the same method and frequencies Dr. Rife used. For these reasons, the RF method is the only method anyone would want to use. Click on the link below to read several written reports of doctors who used Dr. Rife's original Rife Machines and frequencies on their many patients.

[https://rifevideos.com/doctors\\_who\\_used\\_the\\_rife\\_machine\\_on\\_their\\_patients.html](https://rifevideos.com/doctors_who_used_the_rife_machine_on_their_patients.html)

Some EMF instrument builders also imply that the EMF method produces 100 times more power output than the RF method Dr. Rife used. If you are only comparing the EMF field to the RF field method then this may be correct. But this is not a correct comparison. Dr. Rife only used the RF method and it only outputs a very low safe EMF field. For this reason, there is no way to compare an EMF ray tube instrument to an RF ray tube instrument. Even though it is impossible to compare these two methods some EMF machine builders do it anyway and try to represent the EMF method, without any proof, as superior to the RF method Dr. Rife used. They try to put the RF method in the most negative inferior light they can, even though this was the only method Dr. Rife and the many doctors used.

Here are several statements that have been made in order to try and convince people that this EMF method is better than Dr. Rife's RF method. A comment will be made after each quote showing how misleading this information is:

**(1.)** *"We are not trying to replicate the past; rather we are engineering the future!"*

How can you engineer "the future" if you do not use the proven RF method that was used in the past? Certainly, it is possible to replicate the past in a more modern machine using the RF method used by Dr. Rife and there are companies that have done this using RF carrier frequencies along with the ability to output Dr. Rife's high RF frequencies. It should be said that it is scientifically impossible to engineer "the future" using the EMF delivery method because Dr. Rife's RF fundamental frequencies cannot be produced directly by using the EMF method.

**(2.)** *"We do not use a carrier wave as promoted by some manufacturers. Their output is so poor (often 1/100th of our output) that they use these waves to try to get deeper penetration."*

According to this statement, they say that the RF method Dr. Rife used is a "poor" method to use. Does this make any logical sense? How can Dr. Rife's RF method be a "poor" method? All radio stations broadcast using an RF carrier frequency and without it, radio and all methods of broadcast

communication would not be possible. All of the great accomplishments Dr. Rife obtained only came from the use of the RF method. This is a scientific fact that cannot be changed. All but two of his original frequencies were RF frequencies. The RF method with its low EMF field would only be a "poor" method if you are incorrectly comparing it to the high EMF field method. The RF method naturally has a low electromagnetic field and the EMF method naturally has a high electromagnetic field. These are two completely different methods of delivering frequencies. The RF method, using an RF carrier frequency and high RF frequencies, covers Dr. Rife's complete frequency ranges. Comparing these two methods is like comparing apples and oranges. Dr. Rife's high RF frequencies and his RF carrier frequency method gave deep penetration otherwise it never would have worked. Dr. Rife's machines had more than a thirty foot radius range all around the instrument. The proof of this is the fact that the RF method was the only method that would devitalize microorganisms. Certainly Dr. Rife knew what he was doing and this is why he used the SUPERIOR RF method which is NOT a "poor" limited method.

**(3.)** *"Some manufacturers often have very weak devices that use a carrier wave because their instruments are 12v based and use hand cylinders. Others have chosen to run a carrier wave because this is what was done in the 1930s."*

Notice in this quote they fully understand that Dr. Rife used the RF "carrier wave" method but they believe they are smarter than Dr. Rife and fully reject his RF method. Just because a manufacturer uses an RF carrier wave does not mean the instrument is a "very weak device". Even though some instruments may use 9 to 24-volt power supplies with metal hand-cylinders they can output power levels from 1-watt to almost 20-watts. They also have the ability to output voltages from about 30 volts to over 200 volts. The current is limited with these instruments so that they stay within safe power levels. These power ranges are certainly not "weak" when used in direct contact with the user. It is not what power level goes into a machine that makes it powerful but what comes out that is important. There are many metal hand-cylinder instruments that only output about 1/5th (0.20) of 1-watt and these are greatly limited and underpowered. But it is the use of an RF Carrier frequency including high RF frequencies that has made it possible to increase power levels to about the 20-watt power range for metal hand-cylinder instruments. Also, the reason that some have chosen to use an RF carrier frequency is to replicate what Dr. Rife did in the 1930s. Since this was the only method proven by Dr. Rife to work, it stands to reason this would be the preferred method to use. Using any other method probably would not be wise if you are really trying to do what Dr. Rife was able to do. Anyone can see that just because they use 9 to 24-volt power supplies does not mean they are "very weak devices" when they can output 4 to about 20-watts.

**(4.)** *"Other researchers have drawn similar conclusions as regards to carrier waves being unnecessary as long as the device has sufficient output. The effectiveness of any instrument is demonstrated by the results."*

When they say "other researchers have drawn similar conclusions" only means they are making the same mistake others have made. Since there have been no other researchers that have done what Dr. Rife did then any conclusions that an RF carrier wave is unnecessary are only the incorrect conclusions of those who do not want to use Dr. Rife's original RF method. This is just an attempt to justify using the EMF method instead of using Dr. Rife's proven RF method. "Sufficient output" using the EMF method does not mean it is a better method. Power is important and Dr. Rife used power levels from 50-watts to about 500-watts with his RF instruments. The 1936/1939 Rife Ray #5 or Beam Ray Clinical instrument was the only instrument sold to the public and doctors. It had a power output of 75-watts. These same power levels are used today in RF Ray tube instruments and they have greater penetration than any EMF Ray tube instruments regardless of what may be claimed by EMF instrument builders. "The effectiveness of any instrument is demonstrated by the results." This is why Dr. Rife's RF method is the only method he found that would devitalize microorganisms. Any other conclusions are only misguided "conclusions" from those who are trying to replace Dr. Rife's RF method with the inferior EMF method.



**(5.)** *"We do not use Sine waves (we use Square wave conversion) with our device since these do not generate harmonics to reach the higher range RF frequencies."*

The reason EMF machines do not use the sine wave waveform is due to the fact that they cannot output frequencies higher than about 20,000 Hertz. This limited frequency range is the lower audio frequency range which is not the RF radio frequency range Dr. Rife used on pathogenic microorganisms. Dr. Rife used sine wave frequencies because he used the higher RF range. Sine waves do not produce harmonics and they would never work correctly with an EMF instrument. But as we pointed out the square wave waveform cannot produce real power in harmonics strong enough to have any real effect in *"the higher range"* of *"RF frequencies."* Using the square wave harmonic method to hit Dr. Rife's *"higher range RF frequencies"* is just wishful thinking. Square wave harmonics using low audio frequencies works ok up to about 500,000 Hertz to hit Dr. Rife's higher RF frequencies but you must have at least 75-watts of power to do this. Power in waveforms is very important using this method and the below power in waveforms graph demonstrates this fact. Keep in mind that the Rife Ray #4 used a damped wave with about 500-watts output. The waveform changed to a square wave waveform with the Rife Ray #5. The power in a damped waveform is only about 11% but a square wave waveform can go as high as 100%, but the Rife Ray #5 only used a 50% duty cycle. This made its power level in its waveform comparable to the Rife Ray #4.

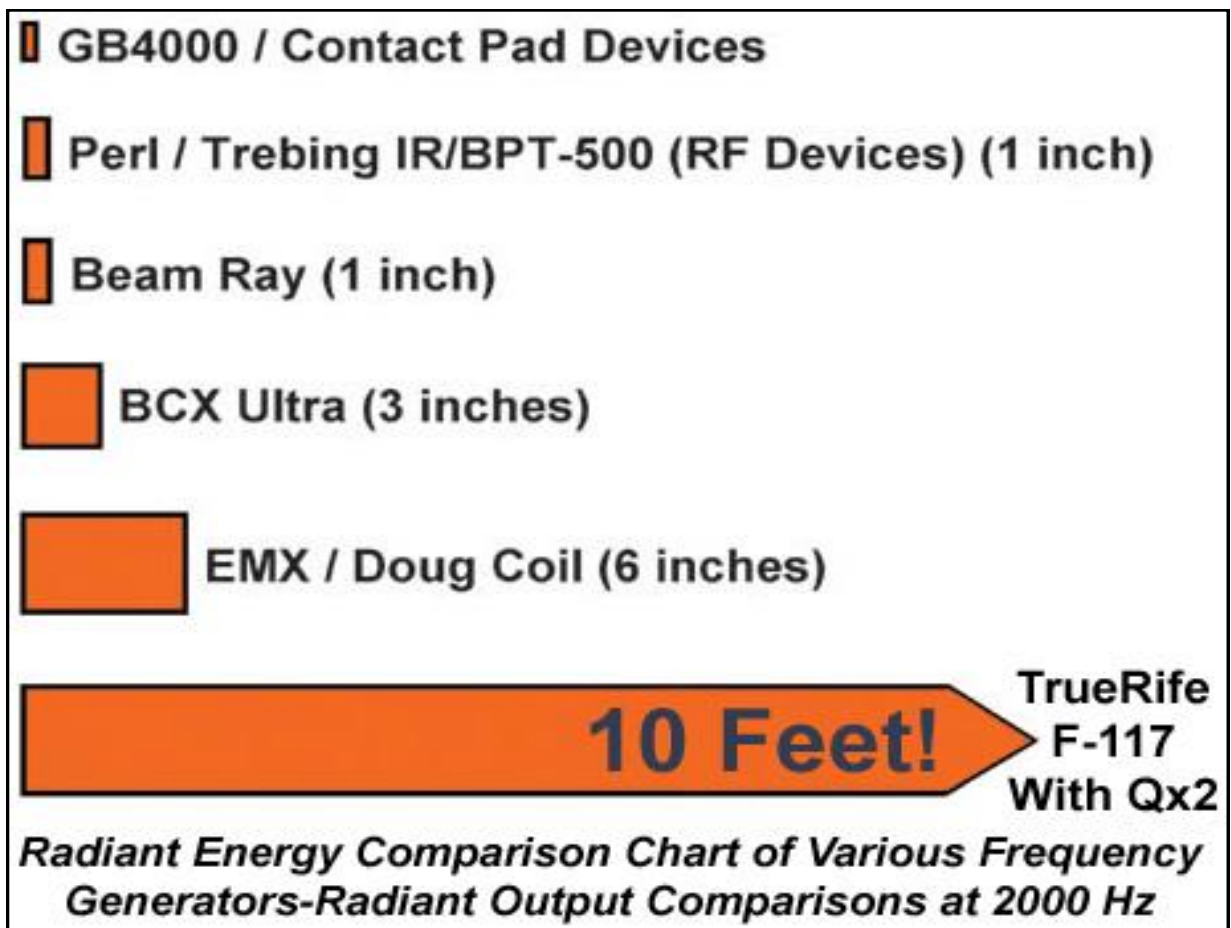
<b>Square Wave</b>	<b>100%</b>
<b>Sine Wave</b>	<b>50%</b>
<b>Triangle</b>	<b>33%</b>
<b>Linear Ramp up</b>	<b>34%</b>
<b>Linear Ramp down</b>	<b>33%</b>
<b>Damped Wave</b>	<b>11%</b>

**(6.)** *"Oscilloscope readings of our systems output will reveal a proprietary waveform specific to our research and development, and should not be confused with other manufacturer's claims as regards so-called "Correct Wave Form."*

The EMF waveform is not *"a proprietary waveform"* and is a natural result of using this method with a square wave waveform. Dr. Rife only used damped, sine and square waves in his instruments. The high RF sine wave waveform was gated or pulsed with a low audio frequency and this produced harmonics in the sine wave waveform used. Since these are the only three waveforms Dr. Rife used, then any other unproven *"proprietary waveform"* would not be wise to use. This is the reason that manufacturers prefer to use the *"Correct Wave Forms"* that Dr. Rife's original machines used. All other so-called *"proprietary waveforms"* other than damped, sine and square waves are unproven waveforms and are only used as *"Sales Hype"* by manufacturers.

As can be seen by these six quotes people can easily be confused by all the incorrect information being written by some who promote the EMF method as superior to Dr. Rife's RF method. Again we will state there is nothing wrong with EMF machines as long as people understand this is not the method Dr. Rife used and they are not real *"Rife Machines"* as they claim. These quotes show how the Rife industry is full of negative advertising along with inaccurate comparison charts of different machines. There is not one comparison chart that we have seen that has 100% accurate information on it. So be careful not to believe everything written in them.

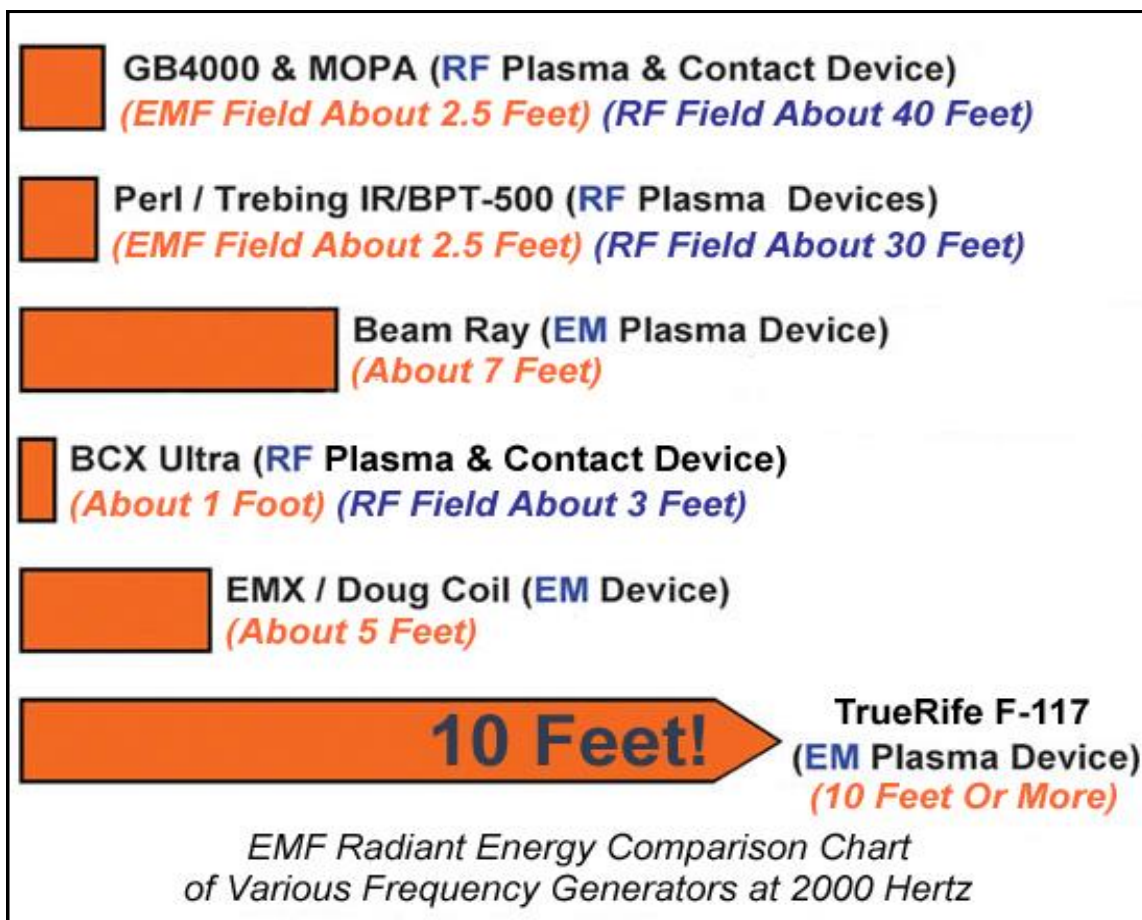
Below is a chart similar to a chart an EMF company made. In their chart, they compare their EMF instrument to other EMF instruments, including RF instruments. Because they used their own name and the names of other instruments we will use those names also in this discussion. We have already shown there is no way to accurately compare EMF to RF since they are two completely different methods of delivering frequencies. Because of this fact, most of the information in this chart is incorrect and misleading. You will notice in this first chart that there is no real distinction showing if a frequency generator is an RF method or an EMF method frequency instrument. Only one machine has "RF Devices" after it. Also in this chart, you see a distance measurement of 1 inch, 3 inches and 6 inches after some of the machines. This measurement represents how strong the EMF field is when they supposedly measured it. Most of this measurement information is not correct with these instruments. Since there is a real concern about the dangers of high EMF fields having a 10 foot high EMF field is nothing to brag about. Having a low safe EMF field like Dr. Rife's RF method produces is what every manufacturer should really want with their instrument.



The first machine on this chart is a 20MHz (20 million Hertz) frequency range contact type instrument that people use metal hand-cylinder and footplates with. It is the most powerful contact hand-cylinder and footplate instrument on the market with a 4.7-watt RF output. They also have a 15-watt contact amplifier and a 20 to 190-watt plasma tube amplifier which is a replica of the Rife Ray #5 with a 20MHz frequency range. It has an over 40-foot range. The second instrument is a 120-watt RF plasma tube instrument that has a 30-foot range with a 300,000 Hertz frequency range. The third instrument is an EMF plasma tube instrument with a 10,000 Hertz audio frequency range. The fourth instrument uses metal hand-cylinders and hand-held ray tubes. It has a 4MHz frequency range and claims to output 30-watts to the hand-held ray tubes but measures less than 1-watt output with a wattmeter. The fifth instrument uses a large coil to produce a very high EMF field. Its audio frequency range is only about 1000 Hertz but is incredibly powerful. The sixth and final instrument is an EMF plasma tube machine that claims to be a "True Rife Machine" but it is not one. It uses one of the highest, if not the highest, EMF fields. It only has a 10,000 Hertz frequency range. We made this chart after looking at their chart.

In a youtube video, they talk about how they used a TriField Meter to test the electromagnetic field of their instrument. Then they use this information and claim that the EMF method they use is superior to Dr. Rife's RF method. Because of this incorrect information, many people are misled by the use of a TriField Meter test. The link below is to their video where they make these incorrect EMF claims and we recommend that you watch it. You will also notice that the comments section on the video is disabled. This is due to the fact that they do not want people to post comments that could give a correct understanding of the RF method compared to the EMF method showing how most of their statements in the video are incorrect. <https://www.youtube.com/watch?v=vFyUO4ZdGhU>

If you watched the video then you know they talked a lot about a TriField Meter. Using a TriField Meter is an accurate method of measuring an electromagnetic field when you are comparing one EMF instrument to another EMF instrument. But it is not an accurate method of reading any RF instrument's true power output or penetration capability. If it was an accurate method of determining how Dr. Rife's machine really worked then his machine, which had a very low EMF field, would have never devitalized any microorganisms. If this was the case then no one would be interested in purchasing a "Rife Machine" today. This is not rocket science, just simple logic. The next chart, shown below, is a more accurate comparison of the instruments. You will notice in this corrected chart that all of the instruments are listed as using either the EMF or RF method. You will also notice that the EMF field only matters if the instrument is compared to another EMF instrument. All of the RF-based instruments have low EMF fields. If the "TrueRife" machine really buries the TriField at 10 feet as they claim this makes a microwave oven's EMF field look small. Anyone concerned with high EMF fields would be very concerned about this high EMF field level. Besides this, it cannot output even one of Rife's original frequencies.



Since the "Radiant Energy Output" of an EMF instrument cannot be correctly compared to the "Radiant Energy Output" of an RF instrument then the EMF method of comparison will always be misleading and incorrect. You will also notice, in the above chart, that the "Radiant Energy Output" of the various RF instruments can extend as far as 30-feet or more distance depending on the power output



of the instrument. With even greater power it can actually go from 40 to 60-feet. The distance of how the RF field really works is far beyond the capabilities of any EMF instrument. This is why, in the chart on the previous page, the "Radiant Energy Comparison" is very misleading. Dr. Rife's machine could devitalize an organism, under observation, on the slide of his microscope within several hundred feet using his RF method and frequencies. At this distance, no TriField Meter would read any EMF field. But when it came to inside the body he always used the plasma or ray tube within two feet of his test animals. This is due to the fact that the body has impedance or resistance and it takes more energy for penetration. At two feet Dr. Rife's ray tube had a very strong EMF field but the EMF field was not a factor in devitalizing microorganisms otherwise the frequencies would not have worked for several hundred feet. Because Dr. Rife was always concerned about penetration the doctors who used his equipment always put the plasma tube as close as they could to the patient for the best possible results.

What must be kept in mind is the EMF method has never been proven to devitalize any of Dr. Rife's microorganisms under microscope observation due to the fact that the EMF method cannot output Dr. Rife's original RF frequencies since all of his frequencies are all RF or radio frequencies. If an EMF machine could output Dr. Rife's high RF fundamental frequencies then it would not be an EMF instrument, it would be an RF instrument. Dr. Rife said he worked in his laboratory for more than thirty years and tested many methods but he found that only the high RF method would resonate and devitalize pathogenic microorganisms. The idea that high RF frequencies or a carrier wave are unnecessary denies the whole method Dr. Rife used. Because Dr. Rife's method of using RF had a low "Electro-Magnetic Field" compared to the EMF method, most of the EMF type instruments have limited their "Electro-Magnetic Fields" within reasonable levels. But the TrueRife company claims in their videos that they have increased their "Electro-Magnetic Field" as high as "1 million times" greater than Dr. Rife's RF instrument could output. Below is a link to the video that has their "1 million times" greater Electro-Magnetic Field" output claim.

<http://www.youtube.com/watch?v=Qe6UUbj72a4>

The real problem with the EMF method is they want to rate all RF plasma tube instruments by the EMF standard rather than by the original RF standard used by Dr. Rife. They do this as though they are more knowledgeable than he was. Using the EMF method is not a position of strength as they believe, but in reality, it is a position of weakness. An EMF instrument could be a thousand or even "1 million times" more powerful than an RF instrument and it would not make any difference because the EMF method is a completely different method of applying frequencies than Dr. Rife's RF method which he used. Even Dr. Rife was concerned about too much power with his RF instruments. He limited the power of his instruments to levels of 500-watts or less. The only machine sold to doctors or the public was the Rife Ray #5 and it had a power level of 75-watts and the EMF field was very low. Here is Dr. Rife's quote showing his concern about the use of too much power:

**DR. RIFE:** *"Now this outfit here - the way we have it boosted up here now with an extreme lot of power behind the actual output that is coming out of the thing...I wouldn't want to use this - or I wouldn't want to use this instrument here the way it is souped up there for this saltwater proposition to TREAT A PATIENT with."*

**DR. GONIN:** *"No."*

**DR. RIFE:** *"You can get BEYOND THE LIMIT [power levels in excess of 500 watts]."*

**DR. GONIN:** *"YES, quite."*

**JOHN CRANE:** *"That's what Dr. Yale did. You see, he stepped it up and up and up..." (1950's Gonin, Rife, Crane and Marsh Paper #27-32)*

If Dr. Rife was concerned about the power levels of his instruments then this indicates that you can use too much power even with the RF method he used. The higher the power level the greater the EMF field. From Dr. Rife's statement and what we know about EMF fields, it makes one wonder about the wisdom of using high "Electro-Magnetic fields" up to "*1 million times*" greater than Dr. Rife used. We will leave it up to the reader to decide if they think high "Electro-Magnetic Fields" are harmless. More is not always better. What people need to understand is a high EMF field would be important if Dr. Rife used this method, but he did not. The promotion of using a high EMF field just misleads people into the belief that Dr. Rife used this method. The idea that Dr. Rife's low EMF instruments were inferior to high EMF instruments is a false concept especially when these instruments cannot output any of Dr. Rife's original fundamental frequencies. The promotion of a High Electro-Magnetic Field should be seen for what it really is, "Sales Hype".

There is a great deal of information available on the internet showing that extremely high "Electro-Magnetic Fields" may not be safe to use. We suggest the reader of this report do a search on this subject and learn more about this subject so they can make wise decisions.

**CHAPTER SUMMARY:** The Electro-Magnetic Field method or EMF method of delivering frequencies is not the method Dr. Rife used to devitalize or render harmless pathogenic microorganisms. He used the RF or Radio Frequency method and all but 2 of his original frequencies were radio frequencies. The low square wave harmonic audio frequency method of producing Dr. Rife's frequencies will only work with a few of his original frequencies because the power level in square wave harmonics drops down very quickly with each harmonic. The power output level of any instrument using the square wave harmonic method depends on whether it uses the RF method or just the low audio range without any RF. The greater the power output the better it will work. An RF instrument that uses an RF carrier frequency can deliver hundreds, if not thousands, of times more power than just an audio frequency instrument that uses no RF carrier frequency. Power determines performance. The EMF method is limited to about 20,000 Hertz and these frequencies are all audio frequencies. This EMF method works on using a very high "Electro-Magnetic Field" to deliver the frequencies. This very high "Electro-Magnetic Field" is the same electromagnetic field that high voltage lines and microwave ovens produce that many people have concerns about. To avoid this potential problem Dr. Rife's RF method produces very low EMF fields and is safer to use.

Chapter 25, will be a summary of the "Rife Machine Report."

## Chapter 25

### Summery of the Rife Machine Report



In summary, with all the historical information that has come to light in the past few years we finally know the truth about which frequencies were Dr. Rife's M.O.R.s. We also understand the audio frequency sideband spacing method used in the Rife Ray #5 or Beam Ray Clinical instrument which hit the high harmonics of Dr. Rife original RF M.O.R. frequencies. Because Philip Hoyland hid how his instrument worked these audio frequencies, due to lack of knowledge, were lowered and used with a square wave waveform in the 1953 AZ-58. These lower square wave audio frequencies may not work as well as Dr. Rife's original frequencies but they have accomplished a lot of good helping many people. With the use of even more square wave audio frequencies a whole new field of frequencies are now available for our use. Having said this, we still need to remember Dr. Rife still maintained his true M.O.R. frequencies were in the RF band of frequencies. Even though Dr. Rife, John Crane and John Marsh tested these square wave audio instruments in the 1950's and early 1960's to see how well they would work. It wasn't until after John Crane and John Marsh were released from prison that they received Dr. Stafford's report showing the limited capability of the low square wave audio frequencies on cancer.

From about 1964 on, John Crane and John Marsh continued to build the audio frequency instruments even though they had the evidence from Dr. Stafford which showed the audio frequencies alone didn't work on cancer like the original high RF frequencies. Even though John Crane and John Marsh said the square wave audio frequencies were Dr. Rife's true M.O.R.s this does not change the fact that



we now know the true purpose of the audio frequencies. The evidence in this report proves that Dr. Rife, John Crane and John Marsh really didn't understand how Philip Hoyland's Beam Ray Clinical instrument worked. This lack of understanding caused them to miss the truth when it was right before their eyes. We would still be in the dark had it not been for the original instruments found and the written documents that revealed Dr. Rife's high frequencies. Add to this the audio tapes which have Dr. Rife's own voice on them telling us his frequencies ranged from the audio to the broadcast bands. Dr. Rife was a pure scientist and only believed what he could prove. Had he seen Dr. Stafford's final report we feel certain he would have considered the cancer tests a failure. Dr. Rife said "he never fooled himself". It is entirely possible that Dr. Rife would have insisted they go back to his original high frequency design used in the Rife Ray #4 or put the 1953 AZ-58 RF carrier frequency back on 3.30 MHz and use Philip Hoyland's audio frequencies.

The most important information that has been obtained from the original Rife Ray #5 or Beam Ray Clinical instrument and Aubrey Scoon's Beam Ray replica instrument is the fact that the audio frequencies used in these instruments had nothing to do with the treatment of disease. To put it bluntly, all of us have been led down the primrose path because we did not understand how the Beam Rays Clinical instrument really worked. The mistakes made have major implications since the audio frequencies used with the AZ-58 (120, 660, 712, 727, 776, 784, 800, 803, 880, 1552, 1862, 2008 and 2128 Hertz) have no ability to eliminate the diseases we thought they would eliminate. In all reality these audio frequencies should be replaced with higher frequencies that are true harmonics of Dr. Rife's original high frequency M.O.R.s instead of clinging to the old dogma. Those who are really trying to do what Dr. Rife did should no longer promote the concept that these AZ-58 audio frequencies are M.O.R.s and by so doing put many people at risk. The best frequencies to use would always be the original high frequency M.O.R.s followed by lower audio frequencies that are exact lower harmonics of the high RF M.O.R. frequencies. For the most accurate list of Dr. Rife's original high RF frequencies go to the first chart on page 246. These frequencies were set by Philip Hoyland in Dr. Rife's laboratory using his microscope.

Hopefully this information will help make a change and in the future we will begin to see what Dr. Rife's original high frequency M.O.R.s will do. Many helpful people have provided the records and resources so this new information could be brought to light: the release of the John Marsh information from John Marsh's nurse; the Beam Ray Trial Papers from Steven Ross; the many photos from Jason Ringas of the Rife Research Group of Canada; the great benefit from Dr. Larry Low who allowed us to purchase the original Beam Ray Clinical instrument; the British Rife group and their work on the Aubrey Scoon replica instrument; the help of James Cunningham along with the great detective work done by James Peters in figuring out that Dr. Rife was using the Kennedy company Model 110, 220 and 281 receivers. We also want to recognize the great work Jim Peters did on the schematic of Dr. Gruners original Beam Rays Laboratory instrument. His recognition of the second variable Hartley Oscillator made it possible to rebuild an instrument that works like the original Beam Ray Laboratory instrument.

The spectrum analyzing of these machines has finally given us the answers to how all these different instruments really worked. I believe the recognition of the Kennedy equipment and the locating of the original 1938-1939 Beam Ray Clinical instrument along with the Beam Ray Laboratory instrument schematic correction and rebuilding are three of the greatest pieces of information we have yet discovered about Dr. Rife. No longer are we guessing in the dark. We have purchased the Kennedy Company equipment Models 110, 220 and 281 along with the original Beam Ray Clinical instrument for all of this testing. We plan on doing more extensive spectrum analysis work on this equipment. We have built, into one case, the Beam Ray Clinical and Laboratory instrument designs. We wish also to give special thanks to Henry Rogers the owner of the Western Historic Radio Museum ([www.radioblvd.com](http://www.radioblvd.com)). He allowed us the opportunity to come and test the Kennedy receivers that he owns. As more information comes out we will update this article as necessary.

For those who would like a complete list of Dr. Rife's frequencies output by the Rife Ray #3, Rife Ray #4, Philip Hoyland's Rife Ray #5 or Beam Ray Clinical instrument, Aubrey Scoon's 1950's Rife Ray #5 and the AZ-58 Beam Ray replica instrument we have listed them in a chart on page 245. Other charts that may be of interest are included on pages 246 and 247.

None of the sets of the low audio frequencies are true M.O.R.s and were originally used to create the proper sideband spacing frequencies. The square wave audio frequencies used by the AZ-58 were used in a different manner or method relying only upon the harmonics from the square wave waveform. This method has been used with very good results over the past 50 years by many people, but, these audio frequencies have never produced the true M.O.R. effect of devitalizing organisms. The correct high RF M.O.R.s are the frequencies that should be used since we know what these frequencies are. If people are determined to use the lower audio and ultrasonic range of frequencies below 50,000 Hertz then they should at least use the highest harmonic frequency of the true M.O.R.s. At the very least we should make sure that all frequencies used are true harmonics of the fundamental M.O.R.s that Dr. Rife found.

[www.rifevideos.com](http://www.rifevideos.com)

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# Rife's M.O.R Frequencies And Audio Sideband Frequencies

Microorganisms From Rife's Lab Notes And Other Documents.	Square Wave Frequencies for Rife, Crane, Marsh 1950s AZ-58 Beam Ray Replica. Built by Verme Thompson.	Sideband Frequencies For Aubrey Soon's 1940s Beam Ray Replica. Built by Verme Thompson. Used with 3.30 MHz	Sideband Frequencies For Original Beam Ray Clinical Instrument. Built By Philip Hoyland 1938-1939. Recovered in 2008. Used with 3.80 MHz	High RF Frequencies For Dr. Rife's Rife Ray #3 and #4 Instruments. Correctly read in 1935 By Philip Hoyland*. Rife Ray # 4 built by*.	1/10th Of One Meter Frequency Tolerance.	Rife's Harmonic Lab Note Frequencies Before 1935. Frequency #1	Rife's Harmonic Lab Note Meter Frequencies Before 1935. Meters	Rife's Harmonic Lab Note Meters Converted To Hertz. Frequency #2
Actinomyces or Streptothrix	Square Wave 784 Hz	Sine Wave 7,870 Hz	Sine Wave 10,000 Hz	Sine Wave 192,000 Hz	12 Hz	Sine Wave 678,000 Hz	Sine Wave 1,607 M	Sine Wave 186,554 Hz
Anthrax			8,320 Hz	139,200 Hz	6 Hz	900,000 Hz	1,100 M	272,539 Hz
Anthrax Symptomatic						400,000 Hz	18,000 M	16,655 Hz
B or E Coil Rod	800 Hz	8,020 Hz	7,833 Hz	417,000 Hz	58 Hz	683,000 Hz	943 M	317,914 Hz
B or E Coil Virus	1,552 Hz	17,220 Hz	16,667 Hz	770,000 Hz	198 Hz	8,581,000 Hz	27 M	11,103,424 Hz
BX Virus Carcinoma	2,128 Hz	21,275 Hz	39,467 Hz	1,604,000 Hz	858 Hz	11,780,000 Hz	17.6 M	17,033,662 Hz
BY Sarcoma	2,008 Hz	20,080 Hz	37,000 Hz	? 1,530,000 Hz	780 Hz			
Bubonic Plague						160,000 Hz	585 M	512,466 Hz
Catarth						1,800,000 Hz	175 M	1,713,100 Hz
Cholera Spirillum						851,000 Hz	312 M	960,873 Hz
Contagious Conjunctivitis						1,206,000 Hz	148 M	2,025,625 Hz
Diphtheria						800,000 Hz	275 M	1,090,154 Hz
Glanders						986,000 Hz	407 M	736,591 Hz
Gonorrhea	712 Hz		14,400 Hz	233,000 Hz	18 Hz	600,000 Hz	1,990 M	150,649 Hz
Influenza						1,674,000 Hz	154 M	1,946,704 Hz
Leprosy						743,000 Hz	1,190 M	251,926 Hz
Pneumonia						1,200,000 Hz	785 M	381,901 Hz
Pneumonia or Spinal Meningitis	776 Hz	7,660 Hz	8,600 Hz	427,000 Hz	61 Hz	927,740 Hz	167 M	1,795,164 Hz
Staphylococcus Pyogenes Aureus	727 Hz	7,270 Hz	8,000 Hz	478,000 Hz	76 Hz	988,740 Hz	540 M	555,171 Hz
Staphylococcus Pyogenes Albus							546 M	549,070 Hz
Streptococcus Pyogenes	880 Hz	8,450 Hz	8,333 Hz	720,000 Hz	173 Hz	1,214,000 Hz	142 M	2,111,214 Hz
Syphilis (Treponema Pallidum)	660 Hz	6,600 Hz	6,591 Hz	789,000 Hz	207 Hz	900,000 Hz	108 M	2,775,856 Hz
Tetanus	120 Hz	1,200 Hz	11,200 Hz	234,000 Hz	18 Hz	700,000 Hz	19,000 M	15,779 Hz
Tuberculosis Rod	803 Hz	8,300 Hz	8,462 Hz	369,000 Hz	45 Hz	583,000 Hz	554 M	541,142 Hz
Tuberculosis Virus	1,552 Hz	16,000 Hz	16,910 Hz	? 769,000 Hz	197 Hz			
Typhoid Rod	712 Hz	6,900 Hz	100 Hz	760,000 Hz	192 Hz	900,000 Hz	345 M	868,964 Hz
Typhoid Virus	1,862 Hz	18,620 Hz	38,214 Hz	1,445,000 Hz	694 Hz	9,680,000 Hz	21.5 M	13,943,835 Hz
Worms		2,400 Hz						



## Dr. Rife's Original High RF Frequencies Fine Tuned To The Precise Frequencies By Philip Hoyland In 1936.

Actinomycosis (Streptothrix)	191,803 Hz
Anthrax	139,200 Hz
B. Coli (Rod form)	416,510 Hz
B. Coli (Filterable virus)	769,035 Hz
Bacillus X or BX (Cancer Carcinoma)	1,607,450 Hz
Bacillus Y or BY (Cancer Sarcoma)	1,529,520 Hz
Gonorrhea	233,000 Hz
Spinal Meningitis	426,862 Hz
Staphylococcus Pyogenes Aureus	477,660 Hz
Staphylococcus Pyogenes Albus	549,070 Hz
Streptococcus Pyogenes	719,150 Hz
Syphilis	788,700 Hz
Tetanus	234,000 Hz
Tuberculosis (Rod)	369,433 Hz
Tuberculosis (Virus)	769,000 Hz
Typhoid Fever (Rod)	759,450 Hz
Typhoid Fever (Virus)	1,445,180 Hz

## Philip Hoyland's Audio Frequencies Used With 3.30 MHz To Produce Through Sidebands Dr. Rife's Frequencies

B or E Coli Rod	8,020 Hz	Syphilis or Treponema	6,600 Hz
B or E Coli Virus	17,220 Hz	Tetanus	1,200 Hz
BX Virus Carcinoma	21,275 Hz	Tuberculosis Rod	8,300 Hz
BY Sarcoma	20,080 Hz	Tuberculosis Virus	16,000 Hz
Pneumonia or Spinal Meningitis	7,660 Hz	Typhoid Rod	6,900 Hz
Staphylococcus	7,270 Hz	Typhoid Virus	18,620 Hz
Streptococcus	8,450 Hz	Worms	2,400 Hz
Streptothrix	7,870 Hz		

**Philip Hoyland's New M.O.R.s.  
Used In The Beam Ray Clinical Instrument.**

B or E Coli Rod	3,332,080 Hz	Streptothrix	3,260,650 Hz
B or E Coli Virus	3,076,140 Hz	Syphilis or Treponema	3,154,800 Hz
BX Virus Carcinoma	3,214,900 Hz	Tetanus	3,276,000 Hz
BY Sarcoma	3,059,040 Hz	Tuberculosis Rod	3,324,897 Hz
Gonorrhea	3,262,000 Hz	Tuberculosis Virus	3,076,000 Hz
Pneumonia or Spinal Meningitis	3,414,900 Hz	Typhoid Rod	3,037,800 Hz
Staphylococcus	3,343,620 Hz	Typhoid Virus	2,890,360 Hz
Streptococcus	3,595,750 Hz		