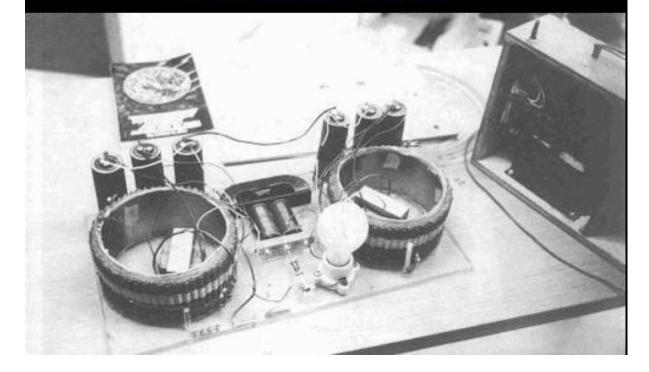
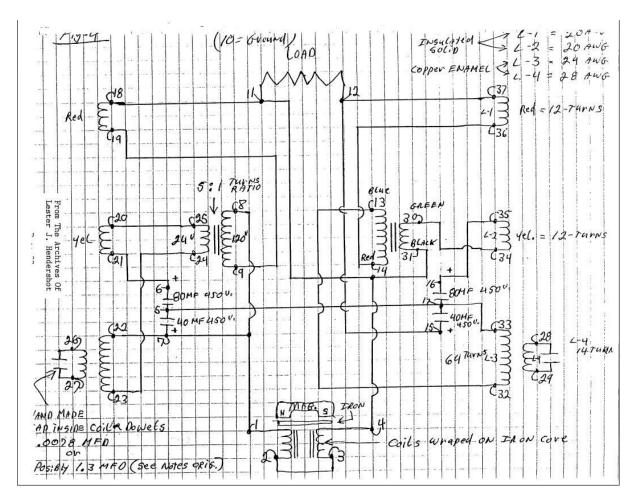
## HENDERSHOT GENERATOR: 31<sup>st</sup> August 2013

A second attempt using the original data of Lester Hendershot.



Fig 3: A later model displayed - possibly as late as 1958.





## Beginning the new Math:

Reference schematic used will be from the Archive as above and uploaded earlier.

L1 is at the top in red 12 Turns of insulated 20 awg 0.81 mm

L2 is next in yellow 12 Turns of insulated 20 awg 0.81 mm

L3 is bottom Copper 64 Turns 24 awg 0.51 mm

L4 is Copper wound over centre of L3 and 14 Turns of 28 awg 0.32 mm and is connected to home-made capacitor.

From the above data we can extract the following:

pHi = 1.618 and pi/2 = 1.571 providing an area which we may presume we are supposedly going to be working within.

0.81/0.51 = 1.588 (+16 & -30 and within the borders).

0.51/0.32 = 1594 ( +23 & -24 and centered within the borders).

With this relationship having been formed, we can now see some Math with Coils that is derived from this special association.

Standard Coil dimensions using diameter of 151.08125 mm (5.9375") [Radius = 75.40625 mm (2.96875")] Calculated Helical Coil:

L1 & L2 each 12 Turns C = 473.8 mm x12 = 5685.5 mm

Fres long wire = 52.73 Mhz

Helical Coil L = 34.2 uH

Fres = 500 Khz

C = 2962 pF

L3 64 Turns C x 12 = 30323 mm (This length is the same as I am using in my Math for the Extra Coil of the Dollard CSI) Fres long wire = 9.8866 Mhz

Helical Coil = 911 uH

Fres = 500 Khz

C = 111 pF

The first of our discoveries can now be put into place and that being that the Helical Coil calculation can be multiplied by Phi to give us the length required for the basketweave.

This is the sole reason why I say out basketweave is correct with regards dimensions and wooden post number of 57.

Basketweave calculation:

Length of L1 & L2 =  $5685.5 \times 1.618 = 9199 \text{ mm}$ 

Actual =

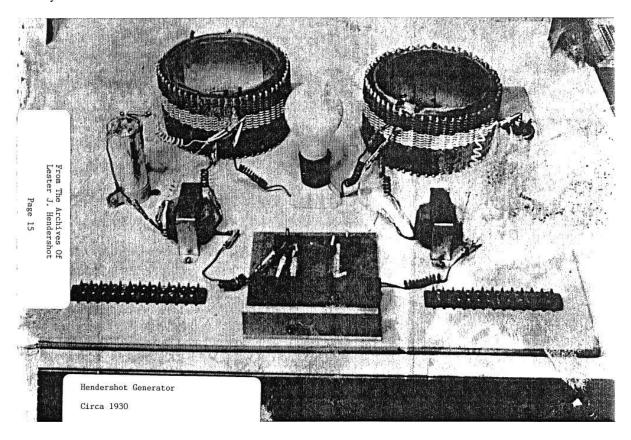
Length of L3 = 30323 x 1.618 = 49063 mm

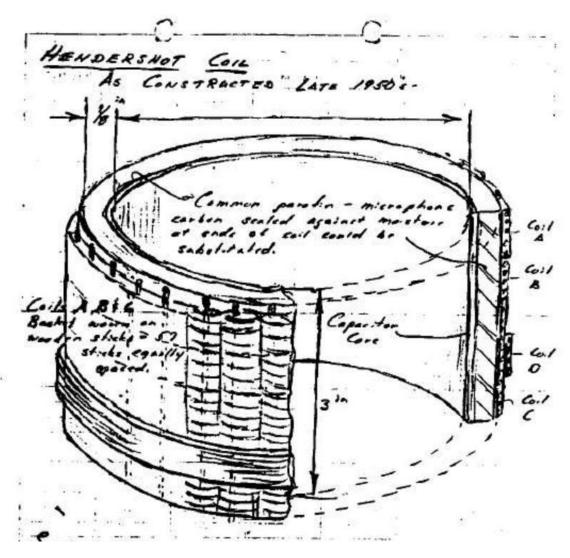
Actual =

Expected Fres of both these is now expected to be close to the 500 khz and not at the 1.86 Mhz previously measured. More wire length lowering the frequency.

A Progressive document, more coming.

## Smokey





"Common paraffin – microphone carbon sealed against moisture at ends of coil coated as substituted" Best I can make of that.