



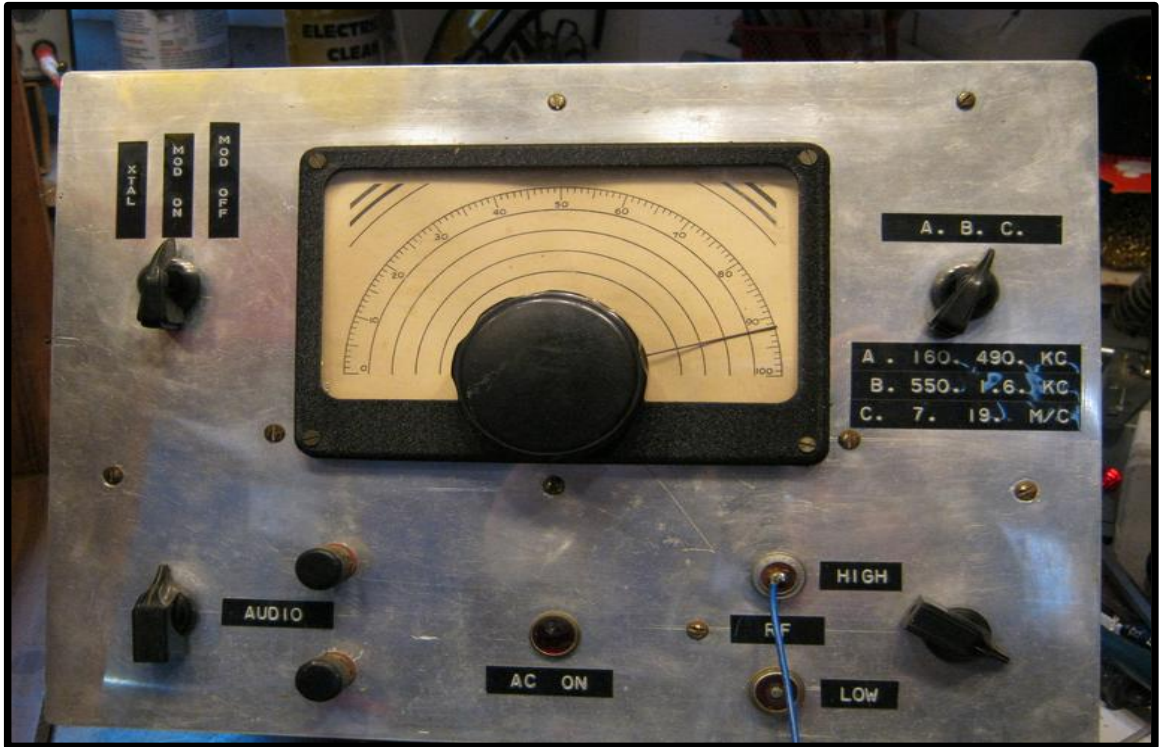
Hastings Br  
13  
Club Calls  
**ZL2AS**  
**ZL2QS**

Napier Br 25  
Club Calls  
**ZL2GT**  
**ZL2G**

**IRLP**  
Node  
6793  
147.250

**Branch's**  
**13/25**  
**Net**  
9.00 AM  
Sunday  
Morning  
670  
Repeater

**Editor**  
John Newson  
ZL2VAF



*Resurrecting a Junk Sale project – more inside*

<http://www.zl2gt.nz/>  
<http://www.zl2as.org.nz/>

**Emergency Call-in Frequencies: 3615khz and 670 repeater**



<https://arec.nz/join-arec/>

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**Committee Meetings:** 7:30 pm, 3rd Tuesday of January, March, May, July, September, November

**Club Calls:** ZL2GT, ZL2G

**Club Web Site:** <http://www.zl2gt.nz/>

**Club Nights:** First Wednesday each month (except January) 7.30pm at the Club Rooms: 123 Latham Street Napier

## **FOR SALE (Offers).**

Two Uniden radio scanners (receivers only).  
Models UBC60XLT and UBC245XLT  
Complete with plug pack chargers and manuals.  
Offers to David ZL2DW (0274 502501)



Amateur Radio WSPR may help to locate flight MH370  
<https://www.1news.co.nz/2023/09/01/location-of-lost-flight-mh370-may-have-been-found/>

And an article refuting above  
<https://mh370.radiantphysics.com/2021/12/19/wspr-cant-find-mh370/?fbclid=IwAR3Dnb>



## **Little Red on the balance**

Taken in 2002 in the Blenheim race course, you will see the 2metre antenna, I was using an Icom hand held working 670 Nelson..... for a week driving around through Picton Havelock for the 80th birthday of the Austin 7  
Colin ZL2TMX



## HASTINGS BRANCH 13

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<b>Club Call:</b>	<b>ZL2AS and ZL2QS</b>		
<b>Net Controllers (Sunday '670 repeater, 9am)</b>	<b>ZL3TT/ZL2DW</b>		
<b>Club Nights:</b>	<b>Fourth Wednesday each month (except December) at 7.30 pm Pakowhai Hall, Pakowhai Road</b>		
<b>Club Fees</b>	<b>\$20 per year payable to Branch 13 a/c # 03 0642 0733310 00 (use your call sign as a reference).</b>		

## From the Top Table

Hi one and all,

Well this month we are not having a formal meeting like we normally do but, as like we do at this time of the year, we head off to Waipawa for a good meal and a great catch up. It is also a great time for those of you that have an XYL to bring them along and let them see what us bad boys get up to - Yea Right!

Any way it is very nice to meet the better half's of the guys that we all see each month or so. For some it gets them involved with the club as well and some they are hams as well. This is great as we could do with more of the ladies in the club. Its one hobby that men and women can get involved with on equal terms.

We have changed from having our meetings at branch 25 to the Orphans hall in Hastings for next month and which is also our general meeting and AGM. There will be a notice posted for the address in Break Out so keep an eye out for it. It is also our home brew competition night as well so bring those things along that you have been working on. If it is to large then take some pictures and we can see what you have been up to.

I have been very busy on 10 meters and 20 and there has been some good DX going on. There has been some really bad DXing as well and to make a point I have been doing some research into this and below is what has come to my attention. Don't get me wrong digital radio is going to be good but I just think that if these guys are going to do a DX expedition to other countries then they need to do the hard miles as well and stop letting there PCs do all the work for them, like FT8, and work SSB and CW so that those of us that don't use the digital modes can still work them. We all know the cost of doing a DX expedition and the time it takes to set all the gear up and install antennas is quite hard and of cause there is the time in getting to some of these places ether by aeroplane or boat but this is half the fun of it all. With a boat you can carry pretty much as you can but with aeroplanes you are limited by weight and the size of poles and what ever else



*Branch 13/HBARC, Hastings, office bearers,  
David Walker ZL2DW (Secretary),  
Blue Smith ZL3TT (President),  
Peter ZL2HM (Treasurer).*

you what to take or need. This all costs big money so why not go the cheap way and use the internet via star link or the satellites.

Anyway you guys get the picture and every one to what turns them on when it comes to amateur radio. It is still very interesting but not my cup of tea and, like it or not, I for one prefer to rag chew and talk to someone on the other end no matter where they are and some times put a face to the callsign and not let the PC do all the work for you. At least if I ever get around to applying for my DXCC I will have done it the hard way and the best way with no cheating.

Well that's it for this month, looking forward to seeing some of you at Waipawa. If not there then on air or maybe at the AGM in November.

cheers Blue ZL3TT, President Branch 13 HBARC



## Branch 13/HBARC NEXT MEETING

"CHB Meal and Meeting", Wednesday 25 October 6pm at "Skinny Mulligans", Waipawa. A time for us "others" to visit the patch of our CHB members.

Please make your own car pooling arrangements.

Booking numbers to David (ZL2DW 0274 502501)

Please note the above is in lieu of our normal Hastings area meeting.



## How to print and process SK requirements re your call sign, in advance

<https://www.nzart.org.nz/assets/forms/2018%20Silent%20Key%20Removal%20Form.p>



## An old'n but a good'n

For this month's story, I'm getting to the point of wiring up all my pcb's for the beach 40 project that we are making at the building club in Napier. It's a 40 meter transceiver, so I needed a signal on 40 meters, as during the day the band is very quiet, as in nothing at all.

The Beach 40 was just full of QRM from the FM or AM bands. I needed a signal that I could recognise when I found it.

Now in my collection of stuff that I had bought from the Hastings Branch 13 auctions, I have this old valve RF generator (see fig 1). Now I bought it a few years ago because it looked all alone and left by itself. But it had a dial on the tuning gang with a reduction Drive, which is what I originally bought it for, as I could use in some project or other.

I pulled it off the shelf and placed on the workbench. It was a home made, all valve thing that some ham had made, that no doubt was his pride and joy.

Switched it on, and waited to see if it worked. I had my frog running (FRG-7) and went looking for the signal.

The RF output sockets are old Mic inputs from the old PA systems used in the good old days, I did not have one so I just soldered a piece of wire on to the centre pin as a sort of aerial. I waited for something to happen: nothing. I can't find any signal. The dial is unmarked, just goes from zero to 100.

The band switch says, that the C band is from 7MHz to 19MHz. I am looking at the osc valve (see fig 2), I know this, as the band coils and the tuning variable cap are there.

The valve is a twin triode. I know this also as I am that ancient. It has 12A on it (the rest is missing).

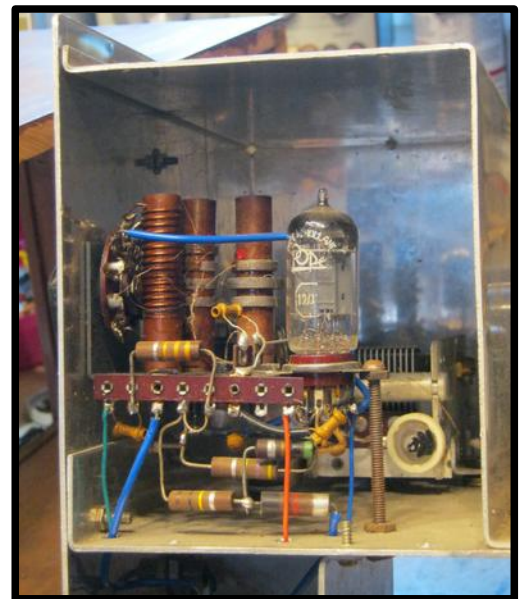
My reference books say (yes I buy old books as well) that the valve was a 12AT7 ECC81, 12AU7 ECC82 or a 12AX7 ECC83. They all have the same pin-out.

Now I know that if you keep repeating the same thing over and over you'll get the same result. But in my case twiddling the tuning knob doesn't count. I just twiddled the tuning knob backwards and forwards, waiting for inspiration to strike.

At my age it could be one or two ways, either I knock something off the bench and it lands on my foot and wakes up my ideas, or slowly a light bulb above my head will start to glow.

In this case my foot was spared. So I'm staring at the Oscillator valve and in behind it is the tuning gang. I was expecting that 7MHz would be down on the left hand end of the dial, some where between zero and ten on the scale.

So I'm twiddling the knob around looking in side at the oscillator when the light



started to glimmer. At the low end of the tuning band the tuning gang should be fully meshed (low frequency). The high frequency end is where the tuning gang is only just meshed. What I was seeing was at the zero end (low frequency) on the front dial where I expected to find 7MHz, the tuning gang was lightly meshed. This meant, that this was the high frequency end not low frequency end. The display is reading backwards.

So the low end should be around up to the 100 end of the dial.

Turning the dial all the way up I heard the RF sweep through the frog. I switched on the ZC1 for 40 meters and found it there. The dial on the ZC1 tuner is out of scale but that's not going to be a problem. I put some cleaner spray into the band switch as it was noisy and put the valve RF generator back together.

Some time back in the day, a ham built this to be used. It may be old, it may be valves, but it still works. So I now have a signal source that I can use, and I'm happy with that.

I am off inside for a coffee and bicky.

Eric ZL2TSU



## Antenna Type?

Seen by a friend of mine visiting Oz



*Explanation by Laurie ZL2TC.*

The antennas in the photo are commonly used for FM broadcasting. They look a bit weird because of the angle the photo was taken from, but basically each antenna is a pair of dipoles, mounted at right angles to each other on a common boom, and spaced a quarter wavelength apart, so you get circular polarization. The elements of each dipole are tilted back toward each other so that the ends are in the same vertical plane. Not sure why, but it may be so that the dipoles have the same phase centre.

FM broadcast transmitting antennas commonly use circular polarization or dual polarization to minimize the "picket fence" effect when receiving in a moving vehicle.

# Cooking with Short Waves

Thanks to ZL2WRW for finding this little gem

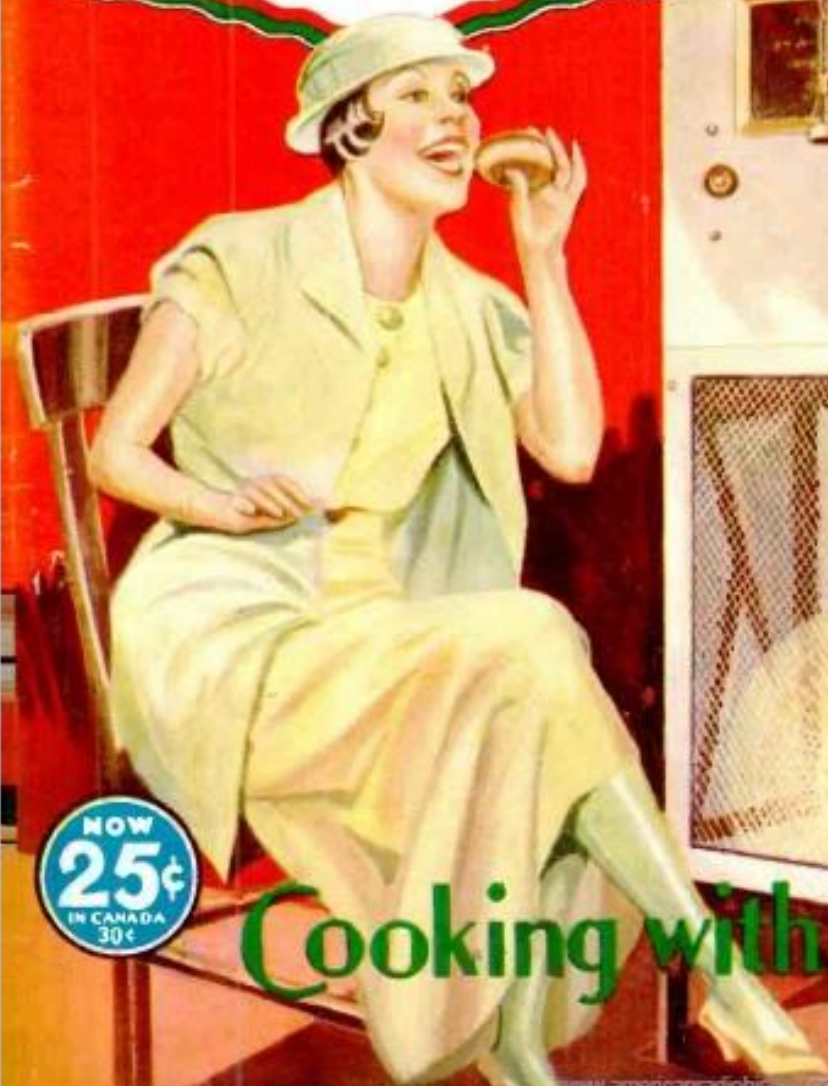
## THE RADIO EXPERIMENTER'S MAGAZINE

November  
1933



# SHORT WAVE CRAFT

Edited by  
HUGO GERNSBACK



NOW  
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## Cooking with Short Waves

See Page 394

## Cooking With Short Waves

(Continued from page 394)

toast that has been burnt to a black crisp does not have even the slightest taste of burn.

### How Ultra Short Radio Waves Are Made

Ultra short radio waves are generated in this apparatus by a standing wave oscillator, a large double end vacuum tube. It has a cylindrical shape and is four feet long and six inches in diameter. It is made in three sections; an inner section of copper construction and large glass cylinders for the end sections.

Current from a motor-generator set at 7500 volts (ordinary household voltage is 110) is impressed on the plates and fed to the grids of the double-end tube. Instantly, the current begins to oscillate within the four-foot tube, just as water would swish back and forth within the tube if the tube were shaken longitudinally. However, since the particles of electricity have practically no weight, their speed is tremendous. They race back and forth within the tube with the speed of light and traverse 245,520,000 lengths of the tube each second!

All the while they are reversing their direction of flow, first forward and then backward; reversing with tremendous rapidity—120,000,000 times a second!

The voltage of this ultra high frequency current fluctuates just as rapidly, changing from its maximum value to its minimum every 1/120,000,000 of a second. The opposite ends of the tube always have opposite voltage; when one is plus the other is minus and vice versa.

The voltage of the end points of the tube may be represented by the ends of a seesaw, one up and the other down, then the one down and the other up. This imaginary seesaw would see-saw at a tremendous rate—each end would go up and down 60,000,000 times each second!

This ultra high frequency current is tapped from the oscillator and led to an eight-foot antenna from which the invisible power hurtles off into space. At some distant point, a small aerial picks up the radiated power and passes it through rectifying tubes the size of an ordinary lamp bulb. The rectifiers smooth out the current's 120,000,000 reversals of direction each second into continuously flowing direct current, suitable for driving electric motors or similar appliances.

## Short-Wave Antennas

(Continued from page 169)

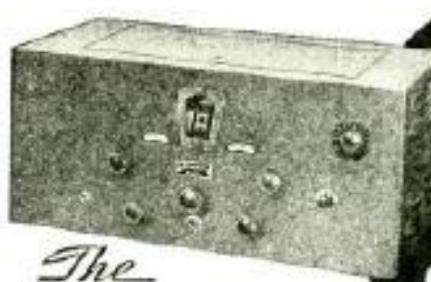
while you, too, enjoy the full benefits from this method of placement. Note the insulator in the center of the antenna. This separates the two antennas, each having its own feeder system. This installation keeps your antenna away from the annoying power lines and both you and your neighbor will have the ultimate in short wave antennas.

Fig. 5

If your neighbor permits you to use his house for the far-end suspension of your antenna, and if he is not interested in the "community antenna" idea, erect the system in the manner shown here. The feeder lines are attached to the center, with ropes of sufficient length at both ends to permit correct suspension of the antenna proper. This method keeps your antenna free and clear from the power lines.

### The Correct Coupling System

The feeders of the antenna shown here must be tuned with a coupling coil, 1½" diameter, wound with 16 turns of No. 22 Double Cotton Covered wire. At the 8th



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The result of this unique feature—exclusive in the new Crystal "PRO"—is the successful attenuation of an unwanted signal to the point of non-interference while the wanted signal remains at maximum intensity.

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## Free to You

**WE HAVE** prepared a special list in which we have compiled all articles which have appeared in former issues of SHORT WAVE CRAFT. This list fully informs you as to all the important articles which have appeared in SHORT WAVE CRAFT since the beginning.

The greater portion of the back numbers are still available. If you are interested in getting this list, send at once three cent stamp for postage and it will be sent to you immediately.

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# Cooking With SHORT WAVES

## • S E N D I N G

power through the empty air, long a dream of scientists, was demonstrated recently for the first time by research engineers of the famous Westinghouse company in a demonstration at their exhibit at the "Century of Progress" Exposition in Chicago.

Only yesterday, anyone so indiscreet as to assert that power in usable quantities would soon be sent through the air without the use of wires would have been considered a dreamer of the Jules Verne type. Yet for the past several years, Westinghouse research engineers have been quietly working on their "powercaster" but delayed announcing their achievement until a suitable occasion presented itself. The World's Fair, dedicated to progress, they deemed worthy.

### Transmitting 1/2 H.P. On 5 Meters!

Radio broadcasting employing ultra short wavelengths is used to send the power through space. The "powercaster's" wavelength is only five meters, far below ordinary broadcast wavelengths. Radio receivers in homes pick up only two or three micro-watts but the "powercaster's" receiver picks up more than one-half horsepower, 160,000,000 times as much electrical energy!

At the recent demonstration in Chicago the audience saw radio power from an antenna 30 feet away drive a 1/4 horsepower electric motor attached to a two-bladed propeller! They not only saw mechanical work done by this radio power, but they also saw and actually felt the physical effect of the high intensity electric field in the vicinity of the "powercaster."

The audience saw electric lights become incandescent and burn brightly when brought into the highly charged field; saw food cooked between two pan-shaped electrodes, which remained at room temperature throughout the cooking operation; saw energy-searing arcs drawn from the wild-looking antenna; felt their bodies become hot with artificially induced fever when they exposed themselves to the more concentrated area of the field.

The heart of the "powercaster" is a standing wave oscillator, an intricate two-headed vacuum tube that is the only device in existence capable of generating huge volumes of power at ultra short radio wavelengths. The "powercaster" was invented on "Miracle Hill," on which are located the Westinghouse research laboratories, by I. E. Mountseff, research scientist in charge of ultra short wave development, and his associate, H. N. Kozanowski.

The demonstrations were held under the direction of E. H. Sniffen, and the demonstration was conducted by G. R. Severance, official demonstrator of the apparatus for the duration of the Fair.

First we had radio fevers induced by short-wave oscillations in the neighborhood of six meters. Now, as our cover shows, we have "Cooking With Short Waves" with us. Before we know it we shall probably be ordering our steak broiled on 7 meters, the eggs boiled on 4 meters, etc. Here's good news for our young cooks—when food is burned by "short-wave cooking," the taste does not reveal this fact! Among the other marvels performed by the new high frequency oscillator here described are the operation of lamps and motors by "radio power transmission"—and it even produces a "short-wave cocktail!"

resistance to passage of ultra short wave currents. It is thought by some medical men that these induced fevers may be valuable in the treatment of many diseases. Experiments to determine its practical value are now being conducted in a large Pittsburgh (Pa.) hospital.

Power In Antenna Shown by Arcs

The antenna, although harmless looking, surges with destructive power. To demonstrate the presence of the 10 kilowatts, nearly 14 horsepower, of electrical energy in the antenna's eight-foot length of copper pipe, arcs can be drawn from the antenna by means of a metal-tipped, insulated pole.

The arc burns slowly with a wicked, sibilant sound. Once started, it is maintained by the high voltage and ultra high frequency of the radio power.

Different chemicals can be put in the path of the arc to show that the arc is similar in its properties to other types of flame. Copper causes a green-colored arc, aluminum a brilliant blue, iron a white, sodium a brilliant yellow, and cadmium, calcium and strontium, red arcs.

### "Radio Power" Lights Lamps

An ordinary light bulb held in the hand becomes incandescent when brought into the field of the 5 meter oscillator. It burns much brighter if a short piece of aerial wire is attached. When held close to the antenna, the lamp burns with several times its usual brightness.

Although the regular current is turned off, lamps in all lighting fixtures within 30 feet of the apparatus become incandescent when the ultra short radio wave are broadcast. Those nearest the antenna burn the brightest.

### Cooking by Ultra Short Waves

Food can be cooked by means of the ultra short wave radio transmitter. The food is heated by internally passing high frequency current through it.

This is probably the only basic advance in the art of preparing food for human consumption since cavemen, thousands of years ago, first burned meat over a fire and heated vegetables in crude vessels of boiling water.

For cooking, the ultra high frequency current is made to pass from one pan-shaped electrode to another. The uncooked food is placed between two electrodes, directly in the path of the radio transmitter's power.

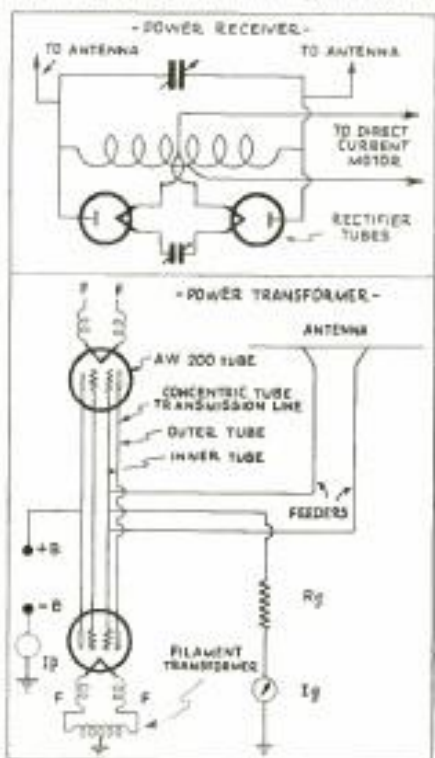
Bread is toasted in a half dozen seconds or so. Steaks, potatoes, and other solid meats and vegetables require several minutes, as does the boiling of water for making coffee or cooking vegetables.

Oddly enough, food overdone by cooking on the radio transmitter does not have a burnt taste. For instance,

(Continued on page 429)

### The "Short-Wave Cocktail"

Among the unusual effects noticed in the "powercaster's" field, Mr. Mountseff believes the "radio cocktail" to be the most outstanding. When a person exposes his body to the ultra high frequency field he experiences an



The two diagrams above show respectively the hook-up of the special 5 meter high-power radio transmitter or oscillator, and also the "power receiver" which picks up sufficient power to operate a 1/4 H.P. D.C. motor!

exhilaration that may be called a synthetic radio "jag." Over-exposure to the powerful field brings on a depressed feeling or "hangover."

The physical effect of the field is intensified many fold if the person improvises an aerial by holding a short piece of metal in each hand. His body immediately becomes noticeably warm.

In tests made under conditions of maximum heat, the body temperature was found to increase by one degree at the end of the first minute and to 105 degrees in about an hour. However, no one has continued the experiment beyond dangerous fever limits.

The "powercaster" is able to produce artificial fever because of the body's