----------THE MUSE----------

----------For JULY 2023--------

-The newsletter of the MUSICK POINT RADIO GROUP (INC.) NZART BRANCH 86
-Incorporating The Society for the Preservation of Amplitude Modulation News-
-with Green Radios On The Air (GROTA)

Musick Point Memorial Radio Station, Bucklands Beach, Auckland. Call Sign-ZL1ZLD.
BRANCH 86 NET- TUESDAYS, 7.30PM, 145.775 MHz, Musick Point Repeater. All welcome!
SPAM Remote Receiver - http://spamnz.zapto.org:8901/
Website- https://musickpointradio.org Webmaster-Neil ZL1NZ.
SPAM A.M. (ZL6AM) Nets- Mondays 11.30AM, some Wednesdays 11.30 AM, Fridays 8.30PM , 3.850MHz.
A.M. Calling frequencies- 3.850MHZ, 7.125 MHz
Editor- Martyn, ZL3CK.

Meeting- Second Sunday of the Month (Except May-Third Sunday, to avoid Mothers' Day)
NEXT MEETING- Sunday July 9th at 1PM. Snacks, coffee and tea provided.
ATTACHED-Minutes of June General Meeting.

A Stormy day- Rangitoto from the Musick Point road.

From the Chair

Last month I tried out putting breaks between the main subjects. The idea was to put quotes or amusing things in a small block just to refresh the mind after the confusing bit before. Unfortunately, the first one must have been subject to a grammar check and correction, because one important word was changed to "there" which spoiled the subtle play on the time thing. The correct quote is repeated below with the correct word "then" playing with the short question that I am sure every parent has heard at least once on a journey.

I think the worst thing about driving a time machine will be your kids in the back always moaning: *"Are we then yet?"* ~Paul F Taylor

The last couple of Sundays at Musick Point have seen Dave and me messing with an old Kenwood TR 7800 which has not worked well since I was given it a few years back. For a short while, it worked after about an hour of warming up. Yes, we can hear you all saying: "capacitors". We had a lot of input from Graham ZL1TOF who kept repeating: "replace all the capacitors first and then test it. They are forty years old after all." Finally, last week, the PLL board was hauled out and Dave commenced the surgery. He was going to be in again on Monday and intended to continue. He might as well, because he and Graham were the ones discussing the circuit and the test findings. I was just an onlooker, having an understanding of how the various components work and only broad concepts of electronic circuits. I am more of a mechanical type. I suppose that in time all the caps will be replaced and the rig will do what it is meant to do. The first week we were at it, Graham asked: "Why not just buy a working one at a surplus equipment (junk) sale?" and Dave replied that we can't stop now because it has become too much of a challenge.

Yesterday, my XYL said that she'd leave me if I didn't give up ham radio……. Over.

As a result of the distraction of a rig gone QRT, we have not done any more work on the network rack in the repeater room. We have the rack positioned in the best place we can find; there is ample power nearby and it is not in the middle of the room where it could become a nuisance in the future. What is needed now is to run network cables from the "RF Rack" to the "Network Rack". When Dave and I considered doing exactly that a few weeks ago, we realised that, if we used the existing cable trunking that runs around the room, we would use about 16 metres of network cable (CAT6) for each run. We need a minimum of three runs for existing RF equipment in the "RFRack", and will most likely run a spare, for luck. We decided that it would be prudent to obtain a length of 'plastic' cable ducting of a suitable size from that hardware place that starts with a 'B'. This will be affixed to a structural concrete beam that crosses the room just where we need it to. This will CUT (pun intended) the length of each run of cable to about6 or 7 metres. I think that Simon ZL1SWW will be pleased for us to get that all done so that he can get the 'new' firewall and server set up and on the go. There could be more for us to do after that, running CAT6 to various places around the building. It was -- interesting -- the first time we did that a few years back.

Amateur radio operators do it with frequency, and so often that it Hertz

A change of subject now: I have been keeping up with some strange changes happening to Betelgeuse. This is the bright, sometimes orange star which makes up the shoulder of Orion, the fairly easily spotted constellation usually seen in the Northern sky, on a path between North-East and North-West, as we rotate. It is what is called a red giant, and is known to vary in intensity with a fairly regular 'pulse-rate' of about 400 days. There has been a lot of chatter that it is most likely quite close to going supernova. This means that, for all the astrophysicists can tell, it might be tomorrow or it might happen 100 or even more years from now. Just recently, it has exhibited unusual variations, especially a very recent increase in intensity, reportedly, of about 250%. What this means, nobody can be sure. When it does go supernova, it will be visible in daylight, at least for a while. Don't get all worked up though, it is about 650 light years away, so will be clearly visible and will have no other effects on us. Poor old Orion will notice it when his shoulder gets blown away. Google it and search for good videos on YouTube – beware, look out for the clickbait channels claiming that astrophysicists and astronomers are shocked or terrified. A very good channel is Dr. Becky who is an astro…(that name), who is very good, and is not too hard to look at either.

Until next month:

73, and call CQ

David, ZL1DRV

They had to have the garage door repaired.
The repairman told them that one of the problems was that they did not have a large enough motor on the door opener.
After a moment of thought, they said that they had the largest one made at the time the door was installed, a ½ horsepower.
He shook his head and said, "You need a ¼ horsepower."
They responded that ½ is larger than ¼ and he said, "NOOOOO, it's not. Four is larger than two.
They haven't used that repairman since.

When my wife and I arrived at the car dealership to collect our car after a service, we were told that our keys had been locked in it.
We went to the service department and found a mechanic working feverishly to unlock the driver's side door.
As I watched from the passenger side, I instinctively tried the door handle and discovered that it was unlocked.
"Hey," I announced to the technician, "it's open!"
His reply, "I know. I already did that side."

Other MPRG News-

You may notice there is a new name for the newsletter! It may make it easier to find among many others. Also, there have been a number of occasions when the newsletter has not 'sent' due to some internet or mailbox problem. There are so many recipients now that it has to be sent in 2 or more 'blocks'. To overcome these problems a new 'repository' for the newsletters has been created so you won't get an emailed copy any more. A link will be emailed to you each month and this will open the latest newsletter, and give access to the recent previous ones, and the AWASA as well.

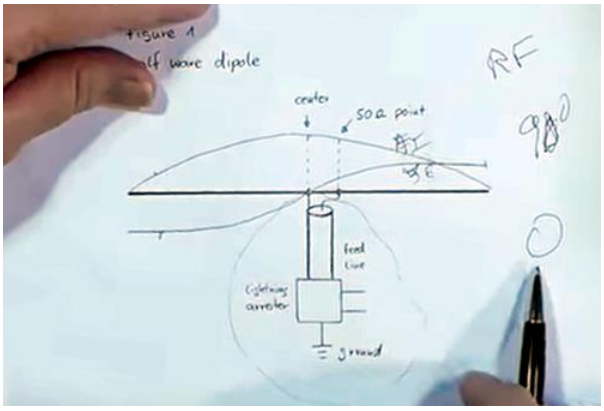
At the station ongoing tidying of the "generator" (store) room, and work on the new cabinet for I.T. hardware in the tower (repeater) room is continuing. The plan is to move the various controllers from the existing rack and link it across the ceiling with a new conduit. Simon ZL1SWW and Dave ZL1DL have been leading the charge with this work.

……

Real Dipoles Don't Do This!

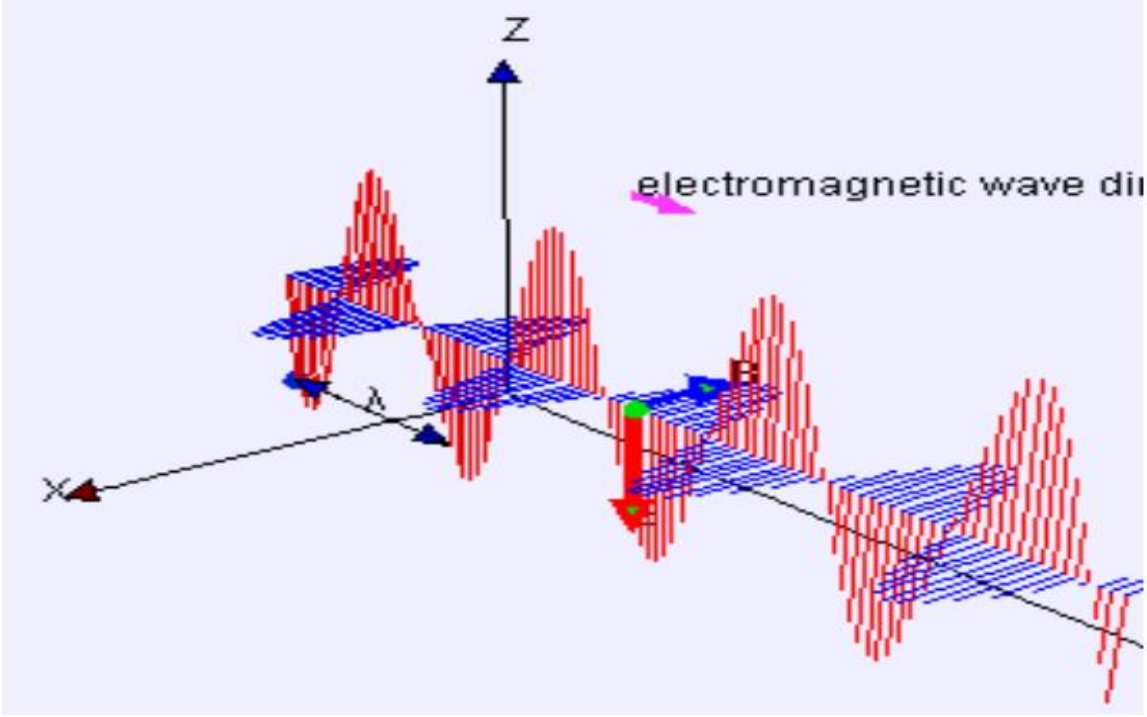
Graham ZL1TOF

Last month we saw the President Dave ZL1DRV point us to a YouTube about a dipole and how it doesn't appear to take power. The current and voltage are 90 deg out of phase meaning no power is delivered. This is the same as a tuned circuit at resonance, the current and voltage are 90 deg out of phase.



Well, the dipole, in fact all aerials, are transformers between the feeder and free space. Think about a transformer with no load. Inductance and a little bit of series resistance like the wire and a bit of core loss. The core loss can be added to the wire resistance. The AC voltage applied to the primary winding causes a current to flow out of phase, lagging by almost 90 deg. When we connect a restive load like an incandescent lamp to the secondary, the primary current may increase a bit and the phase between the voltage and current will become less, say, lagging by 20 deg. The impedance reflected through a transformer is related to the square of the turns ratio.

Back to the dipole. In free space the dipole is coupled to magnetic and electric impedance of free space. This impedance is transformed into the radiation resistance in the dipole. If we make a folded dipole we double the primary turns and get 4 times the radiation resistance at the terminals as expected.



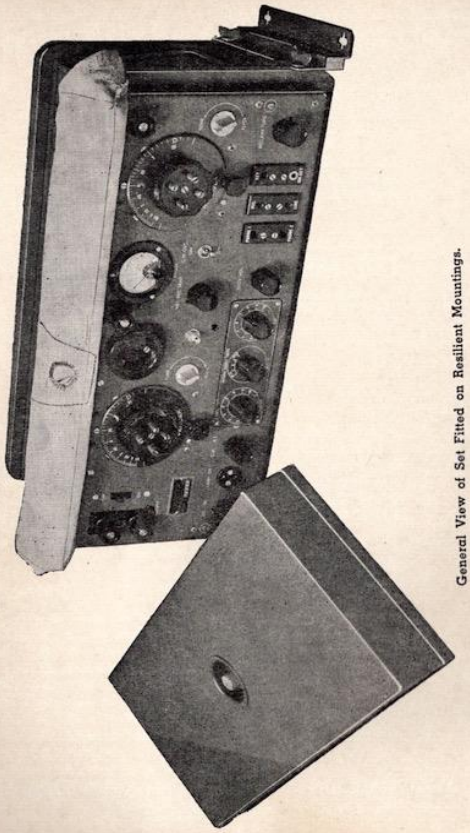
Now we still have a problem. The Electric and Magnetic fields in an EM wave are at right angles to each other and in phase with each other. But the dipole has the current and voltage out of phase with each other. The near field is closely related to the dipole voltage and current. It appears that the near field is very strong and decreases quickly with distance. The current creates the magnetic field and in the far field the electric field is also created by the current in the aerial. How do you think halo and loop aerials work as there is little or no electric field for radiation. Go to https://en.wikipedia.org/wiki/Dipole_antenna and scroll down to “Hertzian dipole” to see more details and the mathematics behind it. The Hertzian dipole is a short conductor with RF current and is used to understand how the aerial system works. This technique is used in the antenna modelling program NEC.

In a receiving aerial the magnetic field of the EM wave induces a voltage into the wire causing a current to flow opposing the magnetic field. This is the same as the secondary of a transformer. Just as a wind turbine reduces the wind speed and thus wind power as a shadow, so, the antenna creates a shadow, reduces the power available, and field strength. Not to worry, the power received by the antenna is very small so usually the shadow is hard to measure.

If the aerial is resonant then the current and voltage will be out of phase just like a tuned circuit.

GROTA and SPAM News-

Some important information regarding the operation of ZC1 Mk.1 radio sets has recently been discovered, below are these instructions.
Question- Who was “Corporal Shickelgruber”, (last page below) and what is the origin of the name?
(Believe or not, these politically very incorrect instructions were from a reprint dated 1953.)
Another question- does anyone know who wrote these instructions? They deserve an award for brightening up the day for the Army radio mechanics.



General View of Set Fitted on Resilient Mountings. PLATE 1.

Chapter 1

General Description

1. Purpose of the W.S. No. ZCI.

.01 The ZCI set was designed because it was found that the types of sets available at the time were unsuitable for communication under the ranges at which it was required to operate in NEW ZEALAND.
.02 It may be used on the ground, or in a motor vehicle.
.03 With an Amplifier, R.F. No. ZAI, it may be used for longer range or Air Support communications.
.04 The dynamic microphone used results in improved speech in very noisy surroundings.
.05 Provision is made for rapid changes of frequency.
.06 The set is shown in Plate I.

2. Range.

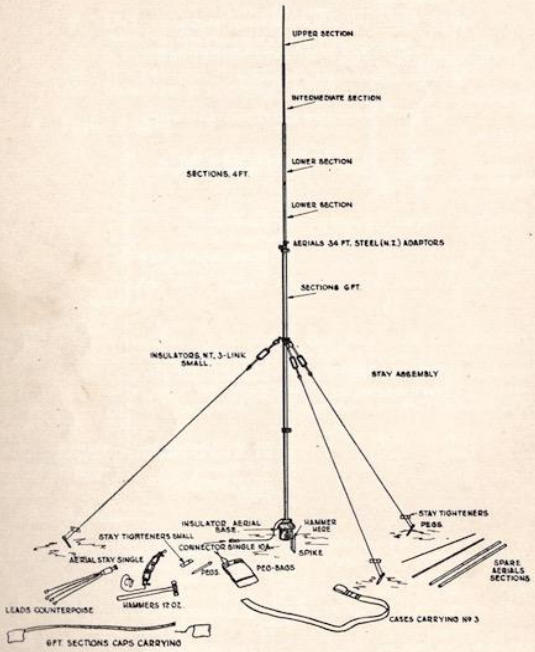
.01 Range of working will vary with the frequency and type of aerial.
.02 Typical ground-wave ranges which may be expected when operating on High Power in average rolling country are:—

Aerial System	R.T.	C.W.
Between Moving Vehicles		
8 ft. whip	10-15 Miles	15-20 Miles
12 ft. whip	15-20 ,,	20-25 ,,
Between ground stations		
16 ft. whip	20 ,,	25 ,,
34 ft. rod	20-30 ,,	25-35 ,,

.03 Considerably greater ranges may be obtained by the use of horizontal aerials and sky-wave working.

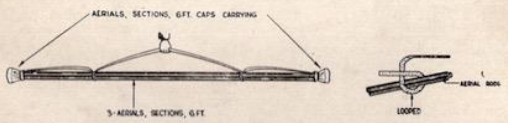
3. Brief Description.

.01 The sender, receiver and power supply unit are mounted in a single, reinforced steel case. The case, when the set is removed, holds enough water to drown one German, two Japs or several Italians. Don't forget to tip out the bodies before replacing the set.
.02 A removable steel cover, secured by a captive nut, and a removable canvas cover are provided.
.03 On top of the case, two mountings are provided for a key, WT, 8-amp.
.04 The frequency band covered is from 2.2 to 6.5 Mc/s.



ERECTION OF AERIALS 34FT. FIG. 2.

.02 Three sections of the whip aerial may be used with Aerial bases No. 8 (N.Z.) for mobile work.
.03 Any of the following aerials may be used, where circumstances permit, without any additional equipment:—
Inverted L, not exceeding 1/4 wavelength.
T aerial, i.e., vertical wire with two equal horizontal spreaders in line, when height plus length of one spreader does not exceed 1/4 wavelength.
3/4-wave horizontal aerial, i.e., inverted L aerial longer than half-wave length but not longer than 3/4 wavelength.
.04 Tables giving lengths for the different types of aerial are given at Appendix I.
.05 The 3/4 wave aerial is the best for very longe-range working using sky waves. The height of a horizontal aerial should be as great as possible, but should not exceed 1/4 wavelength. As it is generally difficult to erect aerials higher than 1/4 wavelength without the use of Hooks, sky (N.I.V.), put up the aerial as high as possible.
.06 "Signal Training Pamphlet No. 2, Part IX," is worth reading.
.07 Horizontal aerials can be used for drying your washing. This is NOT recommended. Jerry may see it. RESULT: Still more washing.



HOW TO CARRY 6FT. AERIAL SECTIONS FIG. 3

Chapter II.

HOW TO WORK THE SET.

What one fool can do another can.

(Ancient Simian Proverb.)

1. INTRODUCTION.

.01 The front panel of the set is covered with a multitude of knobs and gadgets and is perforated with a number of holes. These have been specially provided to confuse the operator. Plate II opposite, shows what they are for.

.02 The set can be removed from the case by unscrewing the two coin-slotted screws projecting near the sides of the panel. Then, after you have pulled off all the knobs trying to take the set out of its case, try the terminals, they are stronger.

.03 Inside the set are more gadgets. The glass ones are valves or "bottles". A set of spare valves and a spare vibrator are to be found in that spare valve box you left behind.

.04 In the accessories case, several other things will be found. Don't throw these away, they may come in handy. The list in the lid will tell their names. If you read the next few pages you will find out what they are for.

2. ERECTION OF STATION IN A TRUCK.

.01 Mount set on bench in truck and bolt down resilient mountings. Fit Keys, WT, 8-amp, No. 1—slide, to bench.

.02 Remove cover and stow in rack.

.03 Plug in the receiver, microphone, and key and place key in slide.

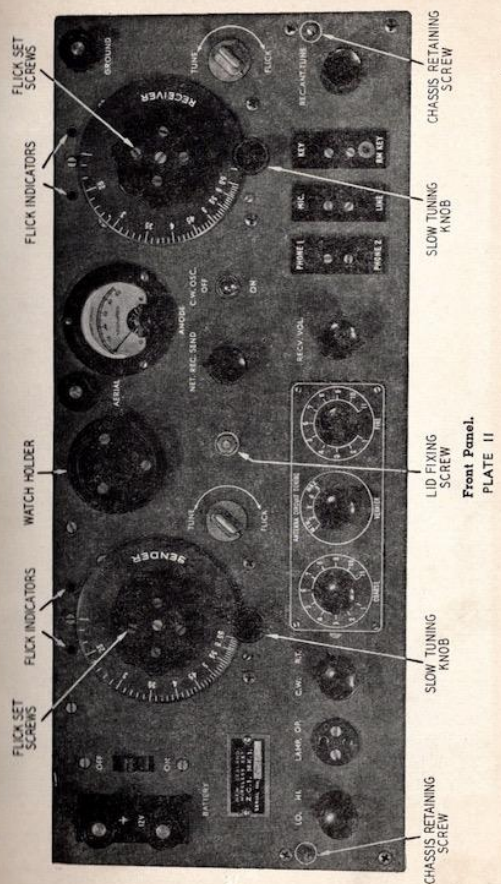
.04 See that the BATTERY switch is OFF.

.05 Connect clamped end of Connector, twin, LT, to 12v. terminals on left of set.

.06 Connect other end to terminals on bulk-head of truck.

.07 Fit Aerial base, No. 8, etc., to roof of truck as shown in Fig. 1.

.08 Connect terminals on Plate, connector, No. 2, to insulated terminal on Condenser X5, 5 KV, by means of connector, single, No. 10E.



Front Panel. PLATE II

3. Daily Maintenance.

.01 Make all the tests, in the order given on page 44, **every day,** even if the set is NOT going to be used.

.02 When you are sick and don't know what is wrong, you don't open up your tummy and tinker with it, you go to a doctor. When the tests show that something is wrong with your set, and you can NOT put it right with the help of this book, DON'T open it up and tinker hopefully with it. REPORT IT AT ONCE.

4. Weekly Maintenance.

.01 EVERY WEEK, without being told, you should:—

(a) Do your Daily Maintenance Tests for the day.

(b) Clean the outside of the set with a clean dry cloth. DON'T use Brasso, or water, or petrol.

(c) Aerials. (See Fig. 1).

(d) Controls. Try ALL of them and see that they are NOT jamming nor turning so freely that their settings would alter through the vibration of the vehicle. See that NO knobs are coming off. If they are, have them tightened by the Electrician, Signals.

(e) General. Check all cords and plugs for wear. Examine aerial base and leads. Examine battery leads. Check over microphones and receivers.

(f) Check the equipment against the complete station list on page 40. Make sure all your spare valves and fuses and spare vibrator are "good".

(g) REPORT AT ONCE—
(a) Any faults found which you cannot put right.
(b) Any missing pieces.
TOMORROW MAY BE TOO LATE.

5. Monthly Maintenance.

This is NOT your job. The Electrician, R. Sigs., will inspect and overhaul your set.

6. Running Repairs.

.01 If the set, or any part works badly, or stops working, try the cure for the particular failure as shown in Table 2, page 48.

.02 DO NOT put faulty valves, fuses or vibrators back in the case. Exchange them for sound ones, and put the sound ones in the case.

7. DONT DO IT.

.01 DON'T drop the set. It might bounce up and hit your chin.

.02 DON'T throw any part away. It may come in handy as a mouse-trap some day.

.03 DON'T pull out plugs by the cords, the plugs might stay behind, and the cords are NOT very strong anyway.

.04 DON'T let the set get wet. It works much better dry.

.05 DON'T tinker with the microphones or receivers.

.06 DON'T throw away "dud" valves, fuses or vibrators. Exchange them for good ones.

8. REMEMBER

DON'T be afraid of your set. Get to know it; treat it with consideration and it won't let you down. It may get you and your friends out of a hole one day.

9. AND REMEMBER

Corporal SHICKELGRUBER listens to everything you say.

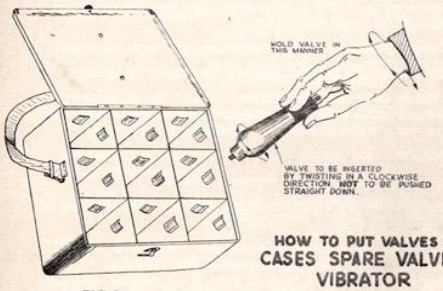


FIG 6.

HOW TO PUT VALVES IN CASES SPARE VALVES & VIBRATOR

From Steven ZL2UV-

Hi Martyn,

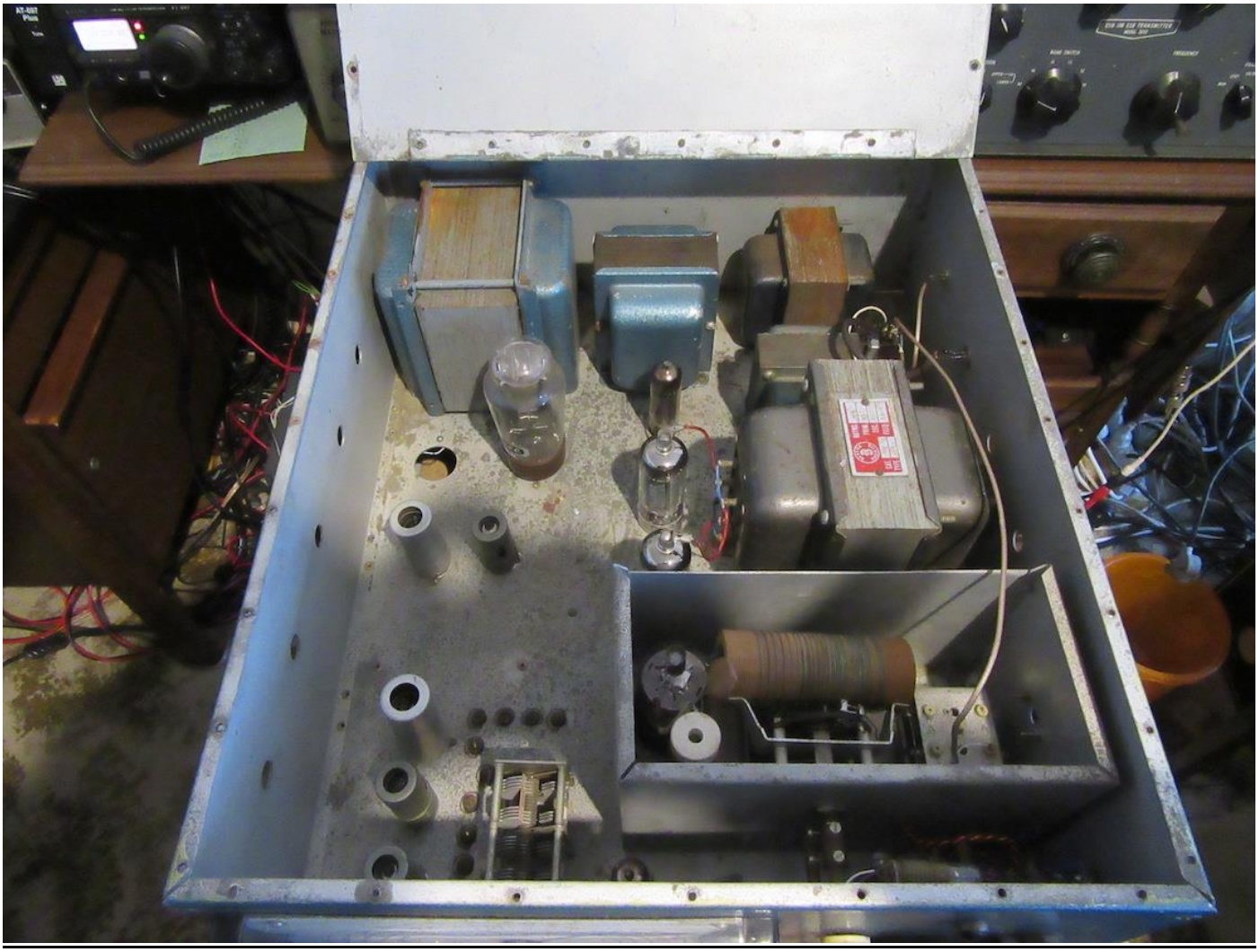
This is my latest project, it was in need of considerable work to finish the build and work my way through some of the issues it had.

It is similar to the K.W. Vanguard and also has the Geloso VFO.
The PA is a 6146 and the modulators are two 5B/254M in push pull.
It weighs about 30 Kg.

Power output is 25W carrier and is capable of 100% modulation.
Frequency stability is good but has a tendency to drift low by a few hundred Hz during a transmission.

73, Steven ZL2UV

Steven has the set on the air this week and it sounds very good and was easy copy in Auckland despite QRM. Excellent to see another AM transmitter back in action.



For Sale, Wanted to buy, and Give Aways-

From Leith, ZL1BCJ Whitianga.

As I go thru my junk, I have found a Beacon P03 power transformer. I will never use it and its too good to scrap. It looks new.
In your next news letter can you ask if someone needs it.
Pri 230 V
Sec 900, 1180, 1460 volts assuming using 866 rectifiers.
Sec current 350 mA.

Thanks. Contact Leith at- seacom@xtra.co.nz

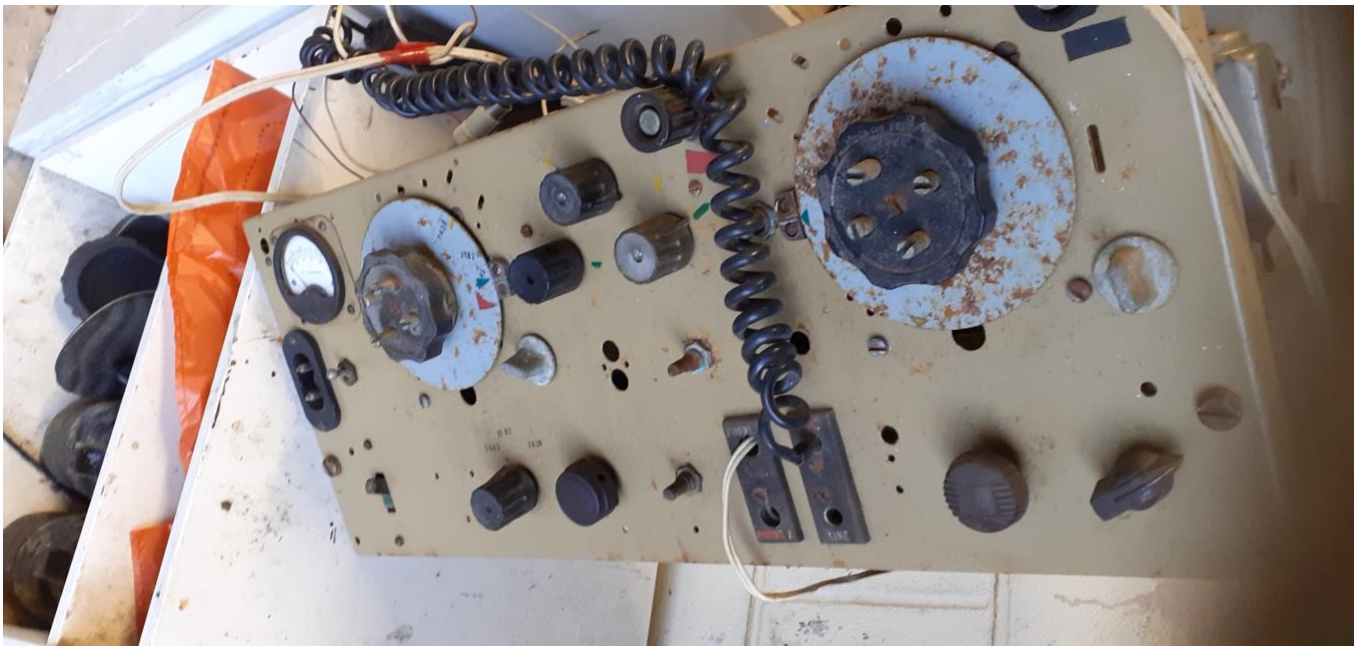
From Basil ZL1LBJ New Plymouth-

I have some four and six pin vibrators 6 Volt if anyone might have a use for them.
Contact the editor if you are interested.

From Howard ZL1BXA- Free ZC1 to a good home!
Hi Martin
Arrived at my Waiheke house last night. Raining but under the deck someone left a sad looking zc1 minus tubes! Dials knackered. Not re capped. No case.
Odd parts. Is it of any use to anyone- would have to get it over to mainland. (See photos next page)

Howard ZL1BXA / zl1WAI

(This one must have a few stories to tell! Looks that it may have been ‘”marinzed”- Ed.)



----------Musick Point Radio Group Inc. ----------

Minutes of General Meeting held at Musick Memorial Radio Station on 11/6/2023

Present: Seven members as per attendance book.

Apologies: ZL1MPU, ZL2JDH

Minutes of previous meeting 21 April 2023: Errors & Omissions: Nil. Matters arising- Result of remits at NZART Conference discussed.
As read: Moved-ZL1DL Seconded ZL1DRV, Passed.

Financial (as at end of Apr 2023)

Bank Account Balances
Current Acct: 2702.45$, Serious Saver: $7640.96, Repeater: $ 465.00 Total: **$10,808.41**
Noted there is an increase of $610.49 in the year, while also noting there is insurance to come shortly.
Accounts accepted: Moved ZL1KFM, seconded ZL3CK, passed.

General

1. Vote on conference remits not required as both were rejected unanimously on voices. The amended remit 1, was that Break In work towards an on-line digital version *as well as* a paper one be published) was passed on voices.

2. Regarding Remit 2 and club insurance, we are not covered by NZART's insurance as we are not a charity and have our own public liability insurance.

3. Calls sign allocations for Musick Point- there seem to be a number of allocated call signs on the old RSM database, including ZL1ZLD, ZL1ZLF, ZL1HK to the SARG, =South Auckland Repeater Group, trustees are Kevin ZL1KFM and Dennis ZL1UET. and to the "Musick Point Museum" ZL1MPD, ZL1VLF. Discussion- should we remove and/or correct some of these callsigns and their details. It is understood the RSM Database is being "upgraded" at present.

   No decisions made.

Meeting closed 13:42

MUSICK POINT RADIO GROUP INC., ZL1ZLD- Branch 86 NZART
(formerly Suburban Amateur Radio Club Inc.)

Membership Subscription form for Financial Year 1st April 2023 to 31st March 2024
Subscription is $40 for the year.

PLEASE COMPLETE ALL SECTIONS AND RETURN THIS FORM WITH YOUR SUBSCRIPTION

PLEASE RETURN THE COMPLETED FORM TO –

MPRG SECRETARY Martyn Seay at martyn.seay@gmail.com

YOU MUST INCLUDE YOUR CALL SIGN AS PAYMENT REFERENCE.

BANK ACCOUNT FOR MPRG- (ANZ) 11-5373-0651319-11

Name- ……..

Callsign/s-……

Address……

Phone/s- ……..

Email……

Financial Member NZART? Yes/no

Subscription- Cash/On line -- to above bank account (delete as necessary)

$.....

Donation- Cash/On line -- to above bank account (delete as necessary) $.....

Sponsored by- ……..……Callsign-……
(New members only)

Club use only: **Approved:** **Not Approved:**

Receipt no……Date……

Note- The information requested is for membership records required to be maintained under the Incorporated Societies Act,
and having due regard to the provisions of the Privacy Act.

The Society for the Preservation Of Amplitude Modulation (NZ)

Application for Membership

Surname: .....

First Names:.....

Call Sign……..

Name used on air: .....

Postal Address: .....

E-Mail Address:.....

Phone No: ..... Mobile:……

Applicant's Signature: .....

Date of Application:.....

The subscription is $5.00 payable once only – and is required with the application.

SPAM account- Society for the Preservation of Amplitude Modulation NZ

(ASB) 12-3086-0264368

You will be posted a certificate for framing.

You can email your application to the co-ordinator : Martyn ZL3CK martyn.seay@gmail.com.