

THE MUSE



-----October 2024-----

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

Musick Memorial Radio Station, Bucklands Beach, Auckland. Call Sign-ZL1ZLD.

BRANCH 86 NZART 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 or ZL1ZLD) Nets- Fridays 8.30PM, on 3.850MHz, and

Wednesdays at 11.30Hrs, **7.125MHz. Now on 40 METERS only.**

Editor- Martyn, ZL3CK.

Meeting- Second Sunday of the Month (Except May-Third Sunday, to avoid Mothers' Day)

NEXT MEETING- **Sunday October 13th at 1pm. Coffee and tea provided!**

Talk next meeting- Neil ZL1NZ will give us a talk about the first trans-world radio contact, the 100th anniversary of which will be on 18th October. This should not be missed!



An iconic 'cousin' to the Musick Memorial Radio Station, designed by John Robert Blake-Kelly - the Henderson, Auckland, National Broadcasting Service transmitting station, looking very well cared for.

MPRG News-

The new SPAM Kiwi SDR is once again back in good health. Thanks to very efficient service from the Kiwi team down south, they bypassed the damaged attenuator and it now works as well as it should.

The URL is- musickpoint.ddns.net:8073/

The team at Musick Point have tested and installed a custom attenuator to handle the nearby 1Kw ICOM with linear amplifier. Tests showed that with nearly 1KW on the 40 meter folded dipole around 11 WATTS of power was coming off the Kiwi SDR aerial (I'm told that's about 113dB over 9). The poor Kiwi is only rated at a watt max. so no wonder it packed a sad! There are 6 diodes, two resistors, a gas discharge tube and- a light bulb for good measure in the attenuator. So if you notice the signal is a bit 'down' in comparison with the nearby SPAM web SDR you are right, but in reality there's little difference as the noise floor on the Kiwi is lower than on the Web SDR. Obviously we cannot remove the attenuator while the SDR is in the present location. It worked well enough to show the carriers from the GROTA team on the hills in Christchurch last weekend (see below) which is rather impressive- a ZC1 (2+ Watts) and No.48 set (0.25 Watt).

Other activity has been to help out one of our new hams, John ZL1OJ with his end-fed HF aerial. He's 'end) fed up' with trying to get it to work! His set-up was recently replicated in the car park, and Harry ZL1BK's VNA showed how a slight change to the coax feed length position, feed line choke position, or the counterpoise length or position made a huge difference to the frequencies of resonance. Such are the difficulties of end fed aerials! However, progress was made and much learning was to be had by old hands and new alike.

Servicing a Valve Radio Chassis- (Abridged) from George Newlands' "Random thoughts on Vintage Radios" with permission. Book available from the Wellington Branch 50, NZART.

NOTE WELL!!- This assumes you are familiar with **keeping yourself safe from Mains and HT voltages**. If not, then ask someone else who does! Also that you ideally have access to a circuit with voltages and values. Power safety check- earth lead continuity (very low resistance) and power transformer leakage to chassis (should be very high).

Remove all valves and dial lights, apply power to transformer and wait 20 mins to see if any heating (there should not be). Check secondary (AC) voltages from the transformer. Each side of HT centre tap should be equal. If not, you will need a new transformer.

Plug in the rectifier valve (only), watch the rectifier closely for excessive heating, red glowing plates, flashes in the valve etc. If ok, wait a few minutes, power off, and check the capacitors, esp. the electrolytics, for heating. They should stay cool! (I'd add in power up first with a Variac starting at say 100V if you have one.-Ed.)

The power supply electrolytics are always suspect and may have low resistance or even a short circuit. Applying full power may result in fireworks, an explosion, or (worse!) a blown transformer- In the case of 'Eddystone' radios a blown choke.

An old electro, if resistance check is ok (say more than 3 megohms) should be 'reformed' by the application of a low voltage- 6 or 12V DC is enough.

If any doubt, replace them or bypass with a modern equivalent.

With the power OFF, check resistance of the HT rail to earth. Should be 50K or more.

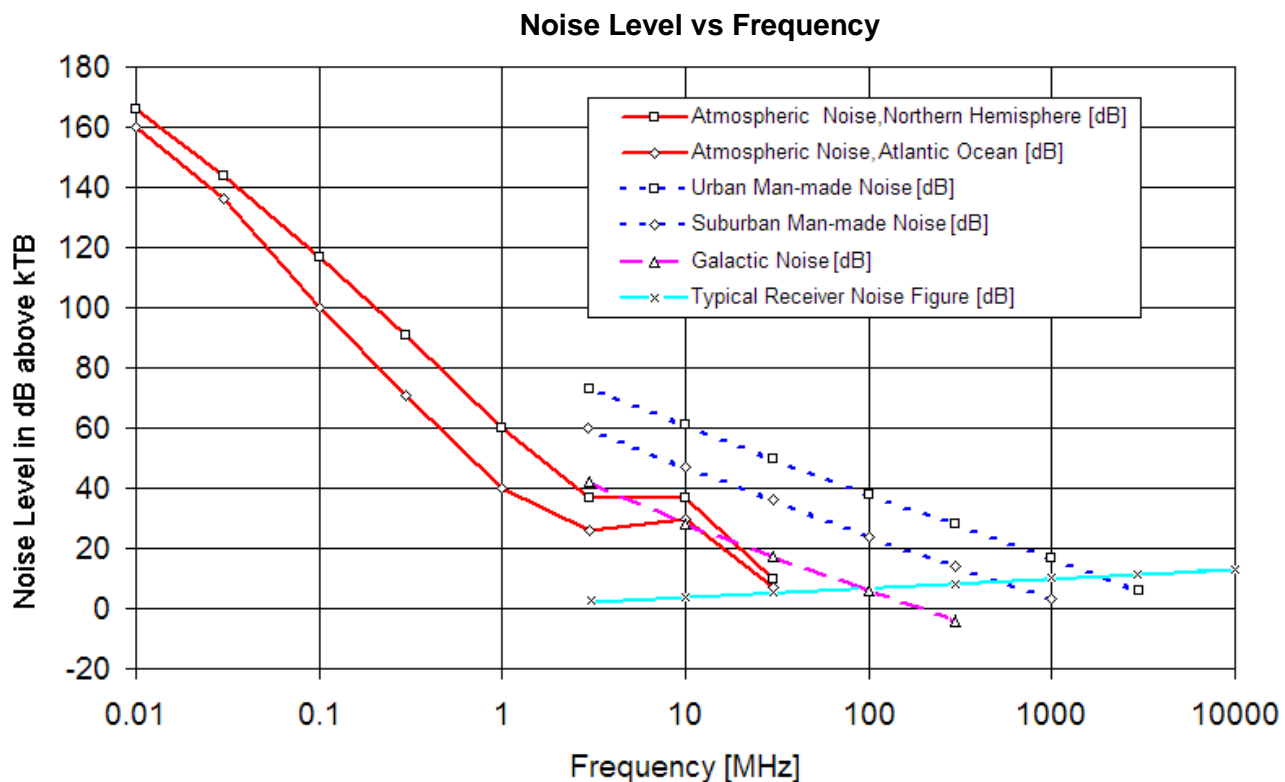
Clean valve pins, check that the valves are in fact the correct ones, plug in valves and dial lights, power up. Check heater voltage is what it should be. Check the voltages throughout the set. If they are within 10 percent it should be working!

Interference and Noise

Graham ZL1TOF

After the September meeting we had an enlightening discussion about noise and interference. I started by outlining the sources of electrical noise and some noise reduction techniques.

Wikipedia says, "In radio reception, radio noise (commonly referred to as radio static) is unwanted random radio frequency electrical signals, fluctuating voltages, always present in a radio receiver in addition to the desired radio signal". In the receiver there is thermal noise in the transistors or valves. This is most significant in the first stage. Subsequent stages deal with larger signals, so the thermal noise is less important. There's a formula for that as you would expect. On HF the noise from the aerial is almost always much higher than the noise in the receiver. Keep the RF gain as low as you can without degrading the signal. Overloading may appear as more noise and mask the signal you want to hear. Other things in the receiver can cause noise: DC in the volume control, particularly when moved; High voltage leakage; High value resistors; Low battery voltage can cause instability; Parasitic oscillation in any stage; Noise can enter the receiver from the power supply, alternator whine on the mobile.



External sources of noise are: Galactic noise from the sun, milky way and other places; Leakage in the mains distribution system, particularly over head wiring; Brush noise in motors and generators; Ignition noise from cars; Switch mode power supplies, in almost every appliance today; Data cables; and ADSL. Because noise is random amplitude impulses, the peak noise power is about 10 dB higher than the RMS value.

Noise reduction methods include: Good AGC design; Noise limiter; Aerial choice; Diversity reception – using a remote on-line receiver. More advanced noise reducers like the MFJ-1026 Deluxe Noise Cancelling Signal Enhancer uses an auxiliary aerial to cancel noise and interference before it enters the aerial socket of your receiver. And the MFJ-784B Tunable DSP Audio Filter that goes between the output and the speaker or headphones. Modern transceivers should have these functions built in.

How do we locate the source of interference? Most noise is close to home. Direction find with an active antenna, good luck with that. Last time I moved house I had intermittent strong noise on MF. I took my headphone radio and followed the mains (underground) down the street and up the street.

It was strongest at my place! I have 3 light circuits and isolated each and the noise stopped on the family room circuit. I then found a Clipsal "SmartMek" 4 stage dimming switch was the culprit. Replaced that with a standard switch, fixed. These Smart Meks were no longer available when the EMC standard was changed to a lower level.

Another case: We bought my dad a DVD player from the place where you get a bargain. We got a bargain with a lot of electrical noise. The AM broadcast band was unusable. The player just passed the CISPR 14 standard, but when grounded through the TV the noise went up 20 dB. This was fixed by fitting an on-off switch and a common mode choke. Should have purchased the more expensive trusted brand name model.

Choose quiet appliances. A number of LED bulbs were demonstrated with a MF AM receiver some made no noise, others were noisy. Some mobile phone chargers were also demonstrated. One continued to tick for about 2 minutes after the power was removed. And when loaded created a broad band hiss. The oscillator has dither to spread out the signal so it is easier to pass the quasi-peak detector in the EMC measurement standard. Quasi peak is used to represent the annoyance factor of interference to analogue communications. The EMC rule is to change to RMS measurement to better represent the damage to digital communications.

How to quieten noisy appliances – turn them off when not using them. RSM has a bit to help here too. <https://www.rsm.govt.nz/business-individuals/interference/radio-interference/what-to-do>

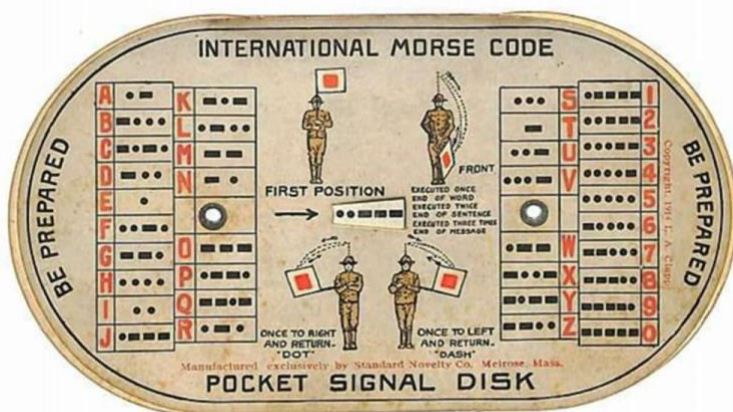
A few years ago I saw a YouTube video on finding leaking noise in the AC power supply network. The method was simple, HF transceiver in the car, connect the "S" meter output to a laptop. Log the location and "S" meter reading every second and drive about the local area. At home put the data into a map to make a noise heat map. Involve the lines company, they can use an ultrasonic microphone to locate the faulty component and have the ability to fix the problems you find. Broken insulators and fault spark gaps or over voltage protection devices were the usual offenders.

The ARRL Handbook has some noise reduction ideas for your car and at home. Take care with mains powered circuits. Many rules about certified components and insulation need to be observed to protect you from electric shock and fire.

From Dave (Mr. Convenient) ZL1DL-

Have you ever wondered about the strange screws that secure household light switch and power plates? The 3 pin 10A power plates that are the norm in NZ and Australia were actually developed in the USA in the early 1900's and promoted as 125v / 15A sockets there. They didn't gain wide acceptance in the USA but the Aussies bought them and eventually produced them locally, and then NZ also took on the design. To remain compatible, they retained the original fixing type and that's why to this day our plates have American 6-32 screws to hold them in place.

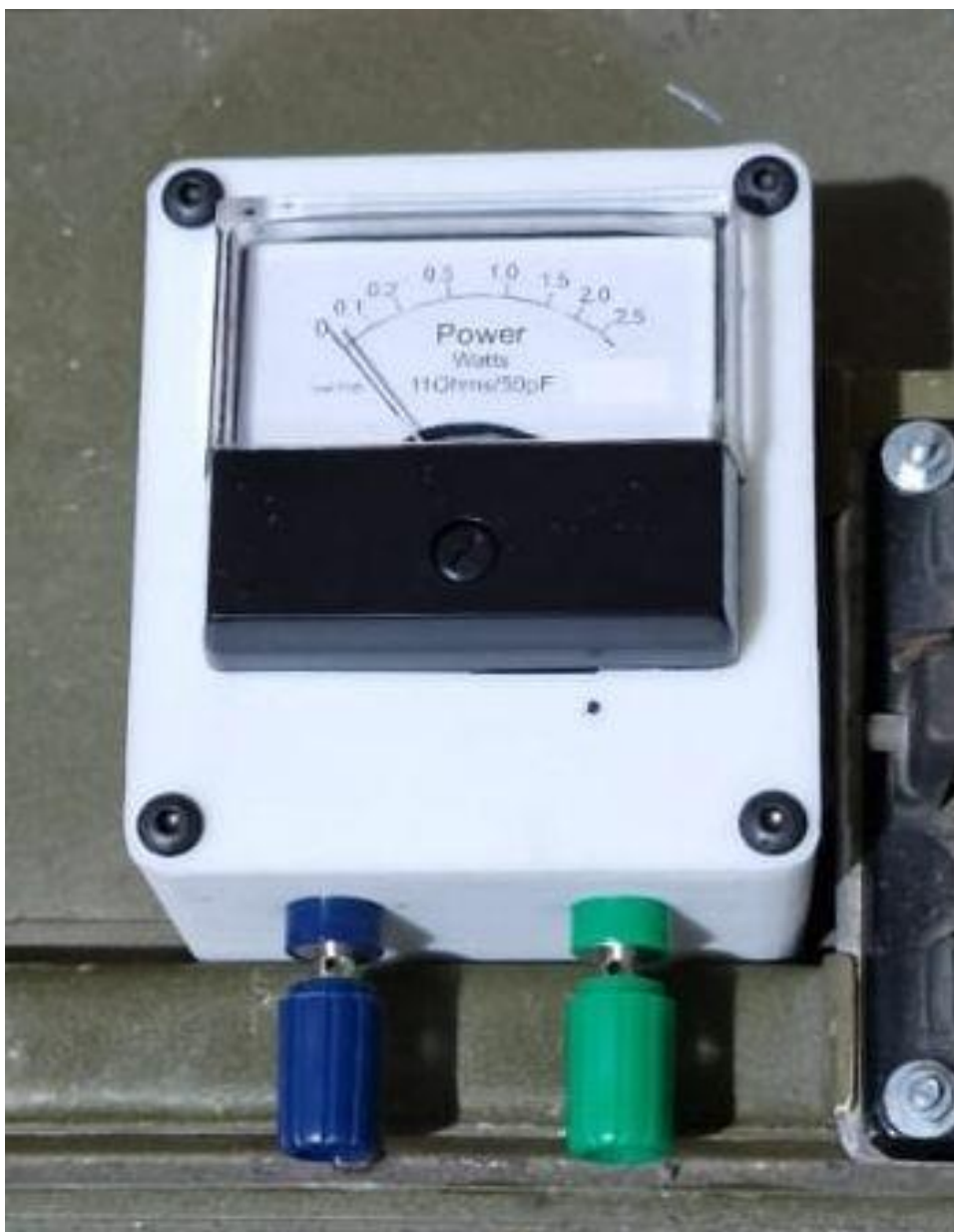
Handy Devices for GROTarrians Dept- Here is just what you need when you are operating your No. 38 set-



Sent in by Pieter, ZL1PDT.

GROTA News from Kelvin ZL3KB and Des ZL3AK-

On Thursday night, 15th of September, we had a great turn out to our monthly meeting at Branch 05, and a great surprise to find the club all alight and heaters on (as it was a very cold night) thanks to Blair ZL3TOY who had got his nights mixed up for his Hamcram+ students advanced course. All the GROTA guys and gals arrived about 7:30pm. To name a few, John ZL3LL and his wife Moira, Leo ZL2LEO, Ray ZL3RAM, Mike ZL3MWD, Noel ZL4OW, Bruce ZL3TFM and others. My apologies for who I may have missed, Oh yes ZL3BHS with a cuppa tea.



Noel ZL4OW's GROTA Power meter with his 3-D printed enclosure.

We started the evening with Noel giving us a talk on the making of his new power meter / dummy load, and the winders he had made for his wire antenna and showed us his ZC1 as well. He also continued his talk on how he had made his Antenna winders and box for his power meter by 3D printing them. A very interesting talk.

Bruce ZL3TFM then gave us a talk on the restoration work he had been doing on his grandson's WS48 set but I do think Granddad is getting more fun out of playing with it than the grandson at this stage. Bruce did say that he is going to help him get a Ham ticket so he can use it. Well done, Bruce.

As we were mainly holding a meeting to see what we would do on the coming GROTA Sunday the 15th September we all made a decision to find a site of our own and go from there. Mike ZL3MWD and Peter ZL3AI picked South Brighton domain, Ray sneaked along the Summit Road and threw a wire up a tree from his ZC1 and Noel ZL4OW and Leo ZL2LEO went to an area by Sugarloaf on the Summit Road. Bruce took his 48set out near where he lives in Prestons.

The author went to Mt Pleasant (It wasn't!) . All and all considering the (freezing cold) weather, fun was had by everyone. Mike and Peter used the ZC1 antenna and were a very strong signal to me at Mt Pleasant, although at the next meeting maybe we need to get someone to talk about antennas and their uses. After the exercise we had a very good debrief at the Ale house at Tower Junction.

You all would be pleased to know that we did show activity on SPAM's new Musick Point SDR in Auckland. Martyn ZL3CK has been very helpful with reports, thankyou Martyn. Hopefully one day you can join us down in Christchurch . (I'll let you know when- Ed.)



Des ZL3AK's set up on Mount (un) Pleasant.

I thank all GROTA members for their participation, and look forward to seeing you next GROTA meeting.

Des ZL3AK.



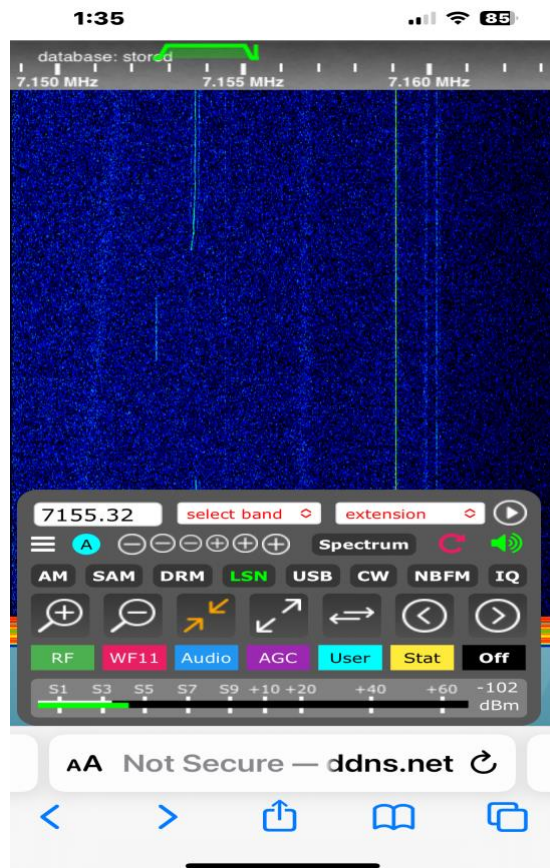
Leo ZL3LEO on Noel's '48



Noel ZL4OW on his '48



Ray ZL3RAM's ZC1 with aerial up the tree.



AM carriers as seen on Musick Point Kiwi SDR

FOR SALE- New Book- The History of the Radio Corporation of New Zealand, by Steve Dunford.

This already famous work is the result of his research over many years, and has been keenly awaited by the members of the Vintage Radio Society. Only 150 copies have been printed and when they are all gone that will be it!

The cost is \$125 plus postage. Email Steve at- steve@essentialtech.co.nz

WANTED by Steve Dunford - Information about the Radio Corp and its 'descendants'

I'd love to talk to any ex staff members that are still around - volume two is in the works, so any more information I can get would be valuable. I thought I'd tracked down most of the remaining ex-staff members, but I always knew I'd miss a few - I'd also like to talk to staff who worked in the 80 Courtenay Place factory for either **Pye** (1960 onwards), or later **Philips** (in the 80's).

Contact Steve on- steve@essentialtech.co.nz

Free Amateur Radio Buy, Sell and Wanted- ZL Ham Ads on <https://zlham.net.nz>

MPRG Blog- <https://MPRG.zlham.net.nz>

Saturday March 8th 2025 Te Puke Amateur Radio Club Market Day branch 53 NZART

Paengaroa Community Hall 4 Old Coach Rd. Paengaroa.

Venue opens for vendors 6.30 AM. Table (1.8 Mt) prices- presale \$20. On day of sale \$25 .
Half table \$12.00 or \$15 son day of sale.

Sale time 9:30 AM. Door charge \$2.00 per person.

For further information contact **Syd Rowe ZL1LWR** (07) 533-1029 or 0272488664

E-mail – sydrowe@extra.co.nz

Breakfast available from 7:30 AM to 11:00 AM at reasonable prices.

Musick Point Radio Group Inc. General Meeting held at Musick Memorial Radio Station on 08/09/24 at 13:00.

Minutes of previous meeting were accepted as published: ZL1FTH / ZL1DL

Financial (as at end of Aug 2024): Insurance of \$821.10 has been paid. We still have a surplus of \$1153.50 for the year to date and a total in the bank of \$11,777.32 There are no expected significant outgoings.

Financial report accepted: ZL4ROB / ZL1TOF

Correspondence

Rob ZL4ROB, received an email from Steve Main / AREC regarding a proposed visit by Auckland Emergency Management to view the MP facilities. Rob has proposed a suitable time for a visit.

Dave ZL1DL, Advised of an upcoming meeting with 2Degrees and Ngāi Tahu reps on 10th Sept at MP

Neil ZL1NZ enquired as whether the club was making a submission over the proposed Region 3 40m band plan. There was no intention for such at club level.

Door prize was won by David ZL1DRV

Minutes taken by ZL1DL