June
2026

THE MUSE

In the case of The Muse; It's not quality OR quantity – it's quality AND quantity

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 Signs ZL1ZLD, ZL1ZLF

Club Open Times		
Sundays	10:00 ~ 16:00	
Wednesdays	10:00 ~ 16:00	
Fridays	19:00 ~ 22:00	
Online		
Musick Point Website	https://musickpointradio.org	Webmaster: ZL1NZ
Musick Point Blog	https://mprg.zlham.net.nz	
SoftRock SDR (80m / 40m)	http://spamnz.zapto.org:8901	
KIWI SDR	http://musickpoint.ddns.net:8073	
Nets		
ZL6AM: 3.850 MHz, AM	Fridays at 20.30	SPAM Net
ZL1ZLD: 7.125 MHz, AM	Wednesdays at 11.30	
ZL1ZLD: 145.575, FM	Tuesdays at 19:30	Musick Point Repeater
General		
Club Meetings	Second Sunday of Month	Except May: 3rd Sunday of Month
MuseLetter Editor	ZL3CK	musickpointradio@gmail.com

- **Next Meeting –Sunday June 14th @ 1pm.**

Maurie Challinor, age 94, former telegraphist at the station from 1951, comes back for a visit

Musick Point Radio Group News

By the time you read this we will have had our postponed AGM and General meeting on 17th May. The minutes for these meetings are attached. Thank you to those who came along and to those who gave their reports of the year's activities.

From the Chair

We had a very good turnout for the Annual General Meeting which was very pleasing as we achieved a quorum and were able to hold the meeting. My thanks to those who made the effort. The AGM was a doddle compared with the General meeting held before it. The majority of the time was taken haggling about the five remits to the NZART Constitution to be handled at the NZART AGM (see the latest Break-In). It was a harrowing afternoon and we were all glad when I could declare the meeting closed.

A Roman walks into a bar and asks for a Martinus. "You mean a Martini?" the bartender asks. The Roman replies, "If I wanted a double, I would have asked for it."

Last Friday evening, I went to Musick Point, as I try to do as often as I can. Dave and I decided that we would clean walls in the foyer – AGAIN. It is never ending, and quite a chore. While we waited for the water heater to do its thing, I persuaded Dave that we should have a coffee, because we both hadn't had one since the last one. There's no story to tell about that session, as we just sipped our coffee and had a bit of a chat. Anyway, the water eventually got hot enough and we proceeded to clean. After about 45 minutes, the water was really dirty and we had had enough, so we decided to stop. As we were about to head upstairs, Maurice arrived, so we went up, and Maurice had a coffee while we chatted. Dave wanted to leave early, so we locked up and left together just a bit after 9pm. What an exciting evening.

Another Roman walks into a bar, hold up two fingers, and says, "Five beers, please."

ALWAYS WEAR UNDERWEAR Always wear underwear in public, especially when working under your vehicle. From a 'local' paper comes this story of a Brisbane couple who drove their car to the shopping centre, only to have their car break down in the car park. The man told his wife to carry on with the shopping while he fixed the car.
The wife returned later to see a small group near the car. On closer inspection, she saw a pair of hairy legs protruding from under the chassis.
Unfortunately, although the man was in shorts, his lack of underpants turned his private parts into glaringly public ones. Unable to stand the embarrassment, she dutifully stepped forward and quickly put her hand up his shorts, and tucked everything back into place.
On regaining her feet, she looked across the bonnet and found herself staring at her husband who was standing idly by watching.
The R.A.C.Q. mechanic, however, had to have three stiches in his forehead.

Why do software programmers confuse Halloween and Christmas? Because Oct 31 = Dec 25

Dunning – Kruger Law: Stupid people think that they're smart, while smart people doubt themselves. The less you know, the more confident you are that you're correct.

Another month's worth of nonsense to keep you all gagging for more?

That's it for now, until next month:
73, and call CQ
David, ZL1DRV

Visitor to the Station: Maurie Challinor

Recently, we had a very special visitor, Mr. Maurie Challinor, who started his working life as a telegraphist at Musick Point in 1951. He came with his daughter Chris, her husband Martin, and Maurie's son John. Maurie started his working life at the Post Office Telegraphy school in Auckland in 1950, and at the age of 19 his first job was at Musick Point.

Maurie has an excellent memory and very fit, racing up the stairs right up to the 'repeater room' at the top. He'd probably have climbed the ladder on to the roof had we let him!

He told us quite a lot about the station, and some of his experiences which we have recorded.

He was put straight on to the 'ships desk' in the downstairs room we now use as the transmitter room. He was told to just copy what he heard and the supervisor would come and collect his decoded messages. One day, not long after he'd started, he copied carefully some calls for assistance from one ship to another; when the supervisor eventually saw what he'd copied he was not happy at all because Maurie hadn't let him know ASAP! - but Maurie had had no instructions otherwise, so he just carried on carefully copying all the messages! Obviously, there hadn't been much "orientation" for the job!

The Challinor family at Musick Point

Maurie chatting with Mark, ZL1MRT

On his first day he went down the road for his lunch which were provided for staff at the hostel (now long gone) where he was roundly told off by the cook because he hadn't given him notice there would be an extra person. After that, Maurie didn't ever bother going for there again! As they finished their shifts at about 2PM he just went home for lunch.

After a year or so at Musick Point he was told he had to go to the town post office, where he worked for some years in the telegraph office.

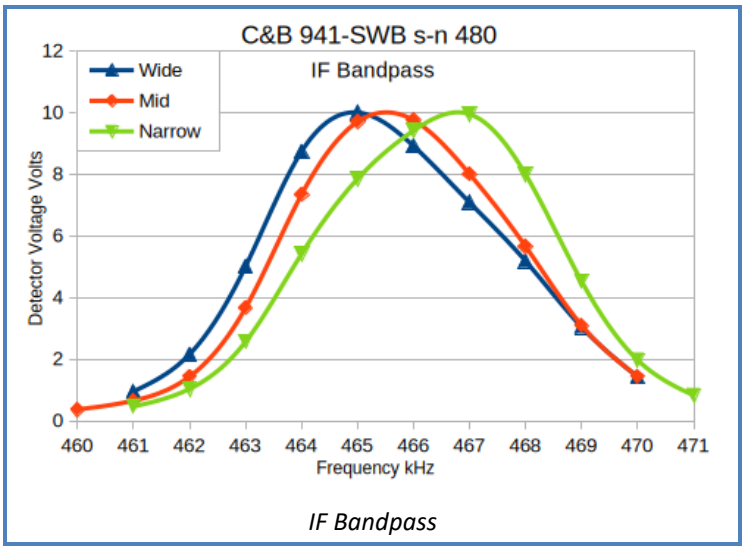
Straight Key Night is less than two weeks away on Sunday 7 June from 2000 to 2100 NZT (0800-0900 UTC) on 80 metres.

That's the first Sunday in June, rather than the usual second Sunday in June !

More info at: Straight Key Night

Refurbishing 941SWB Collier & Beale HF Receiver, serial 480 Graham, ZL1TOF 2026-05-18

When I measured the sensitivity of this receiver, I also measured the IF bandwidth. A signal generator was connected to the grid of the mixer and the voltage across the detector load resistor was measured. The signal generator was tuned over the IF frequency in 1 kHz steps and the voltage recorded. The IF bandwidth was changed from minimum to middle and maximum. The results were plotted as shown. It looks more like an IF shift control as the bandwidth remained about 3.5 kHz.



IF Bandpass

I have replaced quite a few resistors. As the leads on the rather old 2 watt resistor leads at the station were badly corroded, they required scraping and retinning before use..

While I was replacing the resistors in the RF section I measured the wax-paper capacitors. As an internet post suggested these were much better than expected after 85 years in service. The capacitance was a little over the marked value and the leakage measured with HT (140 volts) applied through a digital multimeter on volts showed leakage currents less then 10 uA (>13 Megohm). The leakage may rise a bit when the set warms up. The silver mica capacitors were about half the marked value, so, were replaced.

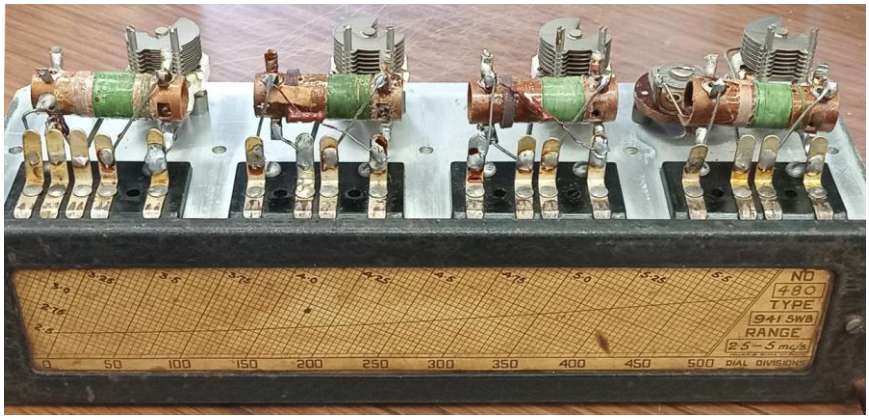
I noticed that when I removed mixer tube to test the screen capacitor, it was a 6K7. It works. The local oscillator is applied to the suppressor grid. As a mixer this arrangement would be poor. I found one 6K8 mixer tube In my collection. This worked with about 10 dB more gain. Then I found some loose tubes in the workshop at the station. Several 6L7's, just what we need. That was about the same as the 6K8, but the local oscillator shifted a bit. Probably because the grid capacitance is different between the tubes.

Since I'm going to put in AGC I set up the circuit on the grids of the 2 RF stages as this may change the RF alignment. The general method for RF alignment is to adjust the local oscillator coil or padder at the bottom of the band and the trimmer at the top of the band. The antenna and RF coils and trimmers can be tuned at the same time. Then repeat until no further adjustment is needed. The instructions I found for the national HRO suggest bending the plates on the gang to check that each of the three RF sections were peaked. Tracking between the oscillator and RF circuits is never perfect over the whole band. Usually there are three places for perfect tracking and these are used to check the alignment and measure the sensitivity.

How hard could this be? The adjustment slot is in the end of a screw reached from the top between the front panel and the tuning gang through an 8 mm hole in the chassis. The padder was stuck fast. Disassemble the RF coil assembly to get to the other end of the padder screw with a larger driver. Screw it in and out a couple of times. Clean the corrosion off the coil assembly casting contact surfaces before reassembly. With the dial at 500 the gang plates are in the way to access the trimmers. I purchased a long thin screw driver, and modified it to do this job.

Aligned the local oscillator padder – first try. Then tune to the other end of the band and adjusted the trimmer. Tuning the set back to the bottom of the band to have another go at the padder, what's this the signal generator at 491 on the dial! After a bit of measuring with the LCR meter I concluded the dial and the gang were not aligned. As the gang is tuned past minimum capacity the rotor plates come close to the fixed plates and the capacity increases, decreasing the frequency.

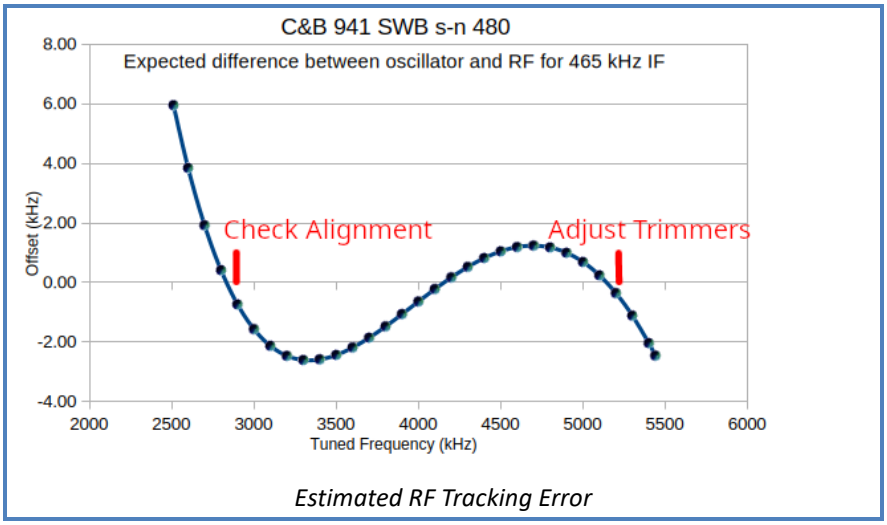
Remove the tuning knob assembly. Good luck with that, Dave, ZL1DRV, and I couldn't get it to budge. Then I removed the top of the gear box. The stops are on the inside of the cover. Using the LCR meter I found the maximum capacity came about minus 15 on the dial. The worm wheel is attached to the gang shaft by 2 grub screws. Adjustment complete after several cycles of adjust and test. The dial chart will be a bit off at the ends of the band, but, should be close over most of the range.



RF Coil Assembly

I applied a bit of radio medicine, WD40, to the mechanics and the contacts to the moving sections of the gang. I chose to use 75 (2895 kHz) and 475 (5283 kHz) on the dial as the alignment points. Adjusting the padder with the munted adjustment slot required the removal of the RF coil assembly, remove the coil assembly, make the padder adjustment, reassemble and see where the oscillator was, repeat until it's on the mark. After quite a few cycles, further adjustment was not required. Measure the frequencies for dial settings over the 80 m band. At 320 (4311 kHz) on the dial measure the sensitivity for 12 dB signal plus noise to noise ratio. Minus 96 dBm more or less. Image rejection about 60 dB.

I built a spreadsheet to make all the calculations to find the frequency the dial represented. I used photos of the dial chart and got the pixel address where the lines cross. The frequency lines are 50 kHz apart and where the calibration line crosses the dial line was estimated as a proportion of the 50 kHz on that square. Over the 80 metre band the dial chart returned a variance of 5.5 while the frequency measurements came with a variance of 1.3 for the same range. Well, the squares are all different sizes, the chart is only a guide.



Estimated RF Tracking Error

The next tasks are to replace the RF gain control with a volume control. Wire the IF gain control into the RF stages and build the detector and AGC system. Perhaps an "S" meter.

Move Over Meshtastic

MPRG has re-flashed its Meshtastic repeater to Meshcore. Meshtastic brought mesh networking to the freely available (no user licence required) 900 MHz ISM band. It was developed to utilise LoRa (Long Range) modulation and provide a data transport system freely available to anyone. LoRa utilises spread spectrum and low data rates to achieve noise and interference resilient communications at low power (less than 1 watt) levels.

Meshcore utilises a different approach to mesh networking from that of Meshtastic, and has seen a huge uptake. There are a lot of enthusiastic experimenters (including many Hams) taking advantage of the "no licence" service. A potential source of new Hams, perhaps?

For an interesting live view of the mesh, click on the link: Meshcore Live !

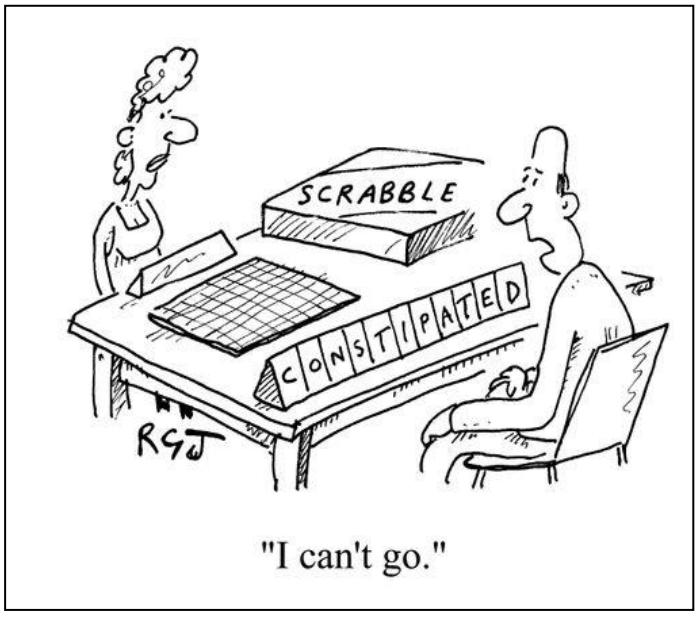
The Meshcore Radio – not much bigger than the USB cable being used to program it !

Branch 02 POTA at MP – Anzac Weekend Sunday 26th

A contingent from Branch 02 decide to try their hand at **P**arks **O**n **T**he **A**ir on the Musick Point West lawn. While the contacts weren't exactly flooding in, it was a new experience for some of the team and a great day to try out the portable gear.

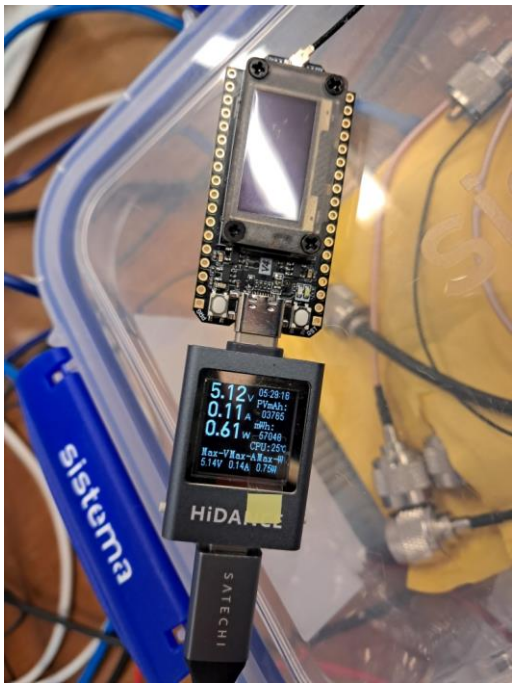
Shade or Sun – take your pick

No no, we're not just standing around taking photos and eating sausages. Honestly, we are talking radio…



"I can't go."

Another Day at Musick Point…



Measuring Meshcore Radio Power Consumption….

Rob, ZL4ROB working on a tuner

The 941 Receiver Getting Attention

They said no radio until the tidying is done

It's Dead, Jim (and possibly a bit wiffy based on the expressions)

Top of the Tower

Society for the Preservation of Amplitude Modulation (SPAM) News-

Replacement of ZC1 Dial Plates and restoration of the locking mechanism. Yes, it's a mission!

As we now have two Mk 1 ZC1's at Musick Point, it was opportune to receive gratis a pair of replacement dials from a GROTA member in Christchurch a while ago. The replacement of these rusty dial plates is not entirely easy, as one was to find out! For some reason, nearly all the Mk 1 transmitter dials are rusty and the MP set was no exception.

Finished! ZC1 Mk1, Version 1 (with RF ammeter) now with replaced frequency dials. – now about the other corrosion….

IF you only have to replace the dial plate, the centre set screw can be removed and the main knob and plate will come off after pushing down and disengaging the fine tune 'pulley' at the bottom. Replacement of the dial plate can then be done without much difficulty, but the tuning will have to be recalibrated.

This is the Mk.1 set with the receiver dial mechanism and fine tune pulley removed

HOWEVER, if the preset locking mechanism is jamming as they usually are, it is a whole lot trickier.

First, with the set out of its case, loosen the set screw in the dial hub clamp found behind the front panel by rotating the dial until it is visible from above.

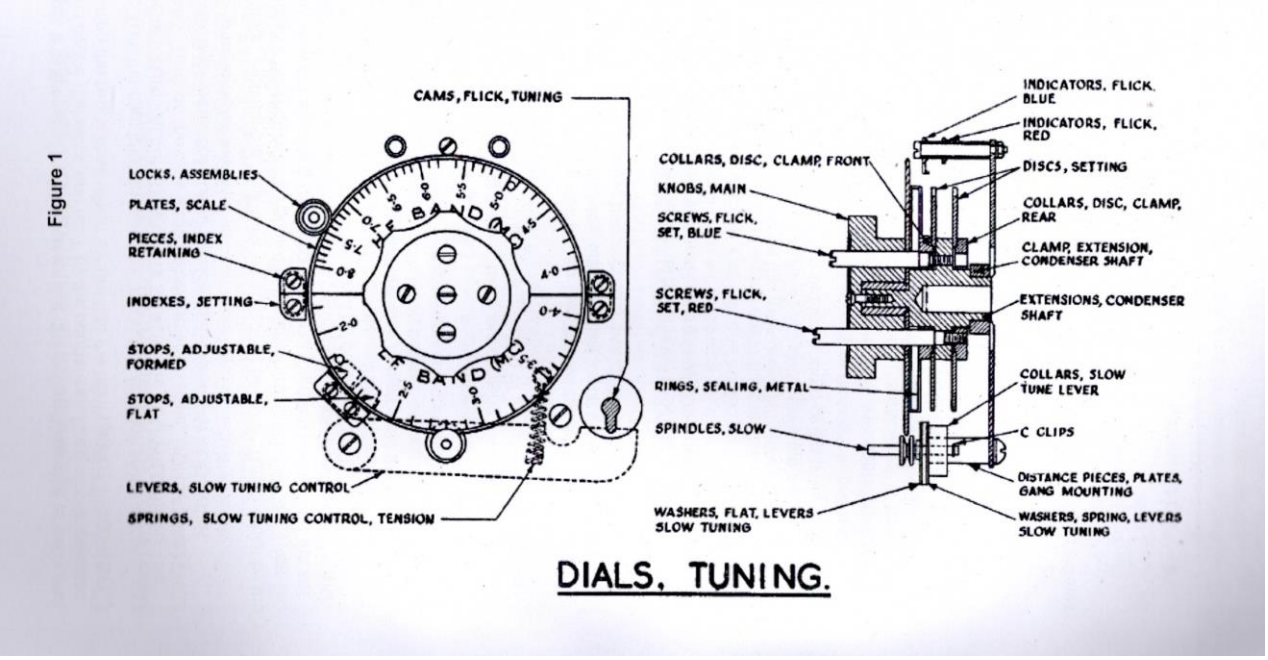
NOTE the position of the tuning cap so the dial can be replaced in approximately the correct position later.

Next the 'fine tune' knob with attached 'pulley' has to be disengaged from the dial edge by pushing it down against its spring as above. It can then be pulled off its shaft.

The whole dial can then be carefully withdrawn from the set BUT FIRST the 'flick" switch must be set to the 'Tune' position to disengage the locking levers from the dial cam. It may damage the mechanism if you try to pull it out with the locking levers under tension. There are small u shaped things protruding from the top of the dial space in the

photo above. They are quite fine and prevent the dial unit from being removed unless they are lifted up away from the cams first by placing the flick switch in the “Tune” position.

In the excellent ZC1 “Service Manual” produced by Bernard Robbins ZL2BD (available from the Wellington Amateur Radio Club Branch 50, NZART) is a nice enlarged diagram, as seen in the original handbook.



This diagram shows the Mk 2 with two bands. It looks complicated, and it is!

The centre screw in the big black knob should be removed, and the knob with attached dial plate will be freed from the locking ‘memory’ cam mechanism. The Dial Plate is attached by 3 countersunk screws which will only fit in one way as they are unevenly spaced. The new dial plate can be attached and the whole assembly replaced.

However, the cams were jamming, because the aluminium centre hub rings were swollen with age and corrosion thus jamming the lock mechanism. To repair this, the whole locking set up was disassembled and the cam plates freed up by sandpapering the enlarged hub rings. See the shiny parts in the photo above where the plates were jamming. The centre hub assembly is held together by two bendable metal pins through a couple of the ‘spare’ holes and are loosely fitted so the whole lot doesn’t fall apart when first taken out of the radio. These are not shown above, but had to be removed in order to fix the jamming.

Once the cams are turning freely again, the mechanism has to be reassembled in the correct order. The two pairs of lock screws (two blue and two red) are different lengths and act upon their respective cam plates which are spaced apart.

Dial removed, showing the tuning capacitor clamp with set screw and the groove where it fits on the dial hub.

Back side of knob/plate assembly, showing the three ‘offset’ dial plate attachment screws.

You'll have to do it yourself to understand how it all works as its impossible to fully explain with words!

Completely disassembled dial mechanism, all parts shown

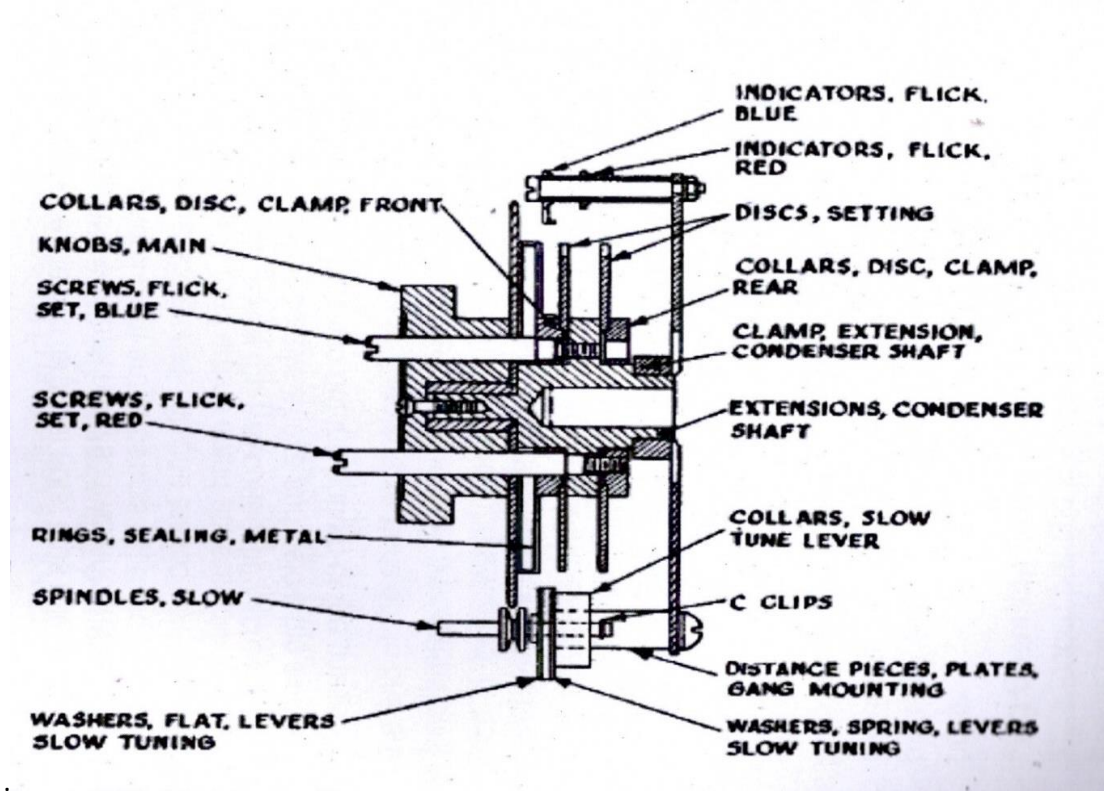
New dial plate installed on hub, centre set screw shown

Reassembly was the greater challenge, as the two cam locking rings are different and will go in the wrong way so they will not engage the screws if you get it wrong. Also, the whole lot may go in 180' out of position so the dial doesn't fit the right way. Finally, the little locking u-shaped springs will need to be carefully lifted away from the cams when the dial is refitted to avoid damage. Gentle trial and error and patience is necessary!

The locking of the cam plates is affected by the pair of long screws (blue or red), one (red) set shown above. The longer red pair clamp the inner cam with the collar/ring. The shorter pair act on the outer cam and hub ring/collar, thus giving two independent 'memories' when the cam is engaged by placing the flick/tune knob in the 'flick' position.

Loosening the pair of screws frees the respective cam plate so it stays locked while the main hub and shaft is rotated to the desired position, then relocked by tightening up the screw pair. Note the corrosion fingerprints of a (probably SK) assembly worker on the cam plate! Replacing the dial assembly needs care-don't force it! - to avoid damaging the fairly fragile indicator flags in the top of the front panel. Again, you'll have to do it yourself to understand what this involves.

In order to show how it works and enlargement of the cross-sectional drawing from the manual is shown below.



Hopefully by comparing the diagram with the photos of the disassembled dial it will help you to understand how it fits together

O'Flattery Award

We love those that persure the impossible, and this month's nominee epitomises that group of people.

Working on the theory that random polarisations, from a closely entangled radiator in a confined space might concentrate RF energy to converge on a common focus, then subsequently expand in a speherical pattern, our nominee proceded to prove his theory.

While his attempt to create the elusive isotropic antenna is laudable, it fell short on several counts. Nevertheless his dexterity in taking a perfectly coiled length of wire and instantly turning it into an unmatchable, phase incoherent, non-radiator has to be admired. In reality, we suspect he dropped his enfed antenna at a critical time in deployment.

Free Amateur Radio Buy, Sell and Wanted

"ZL Ham Classified Ads" at https://zlham.net.nz

Minutes of the General Meeting of the Musick Point Radio Group, held on May 17 2026 at 1309.

PRESENT - ZL1AQS, ZL1DL, ZL1DRV, ZL1EK, ZL1MRT, ZL1NZ, ZL1OJ, ZL1TOF, ZL1WOT, ZL2JDH, ZL2MOH, ZL3CK, ZL3XJ, ZL4ROB.

APOLOGIES: ZL1BQE, ZL1TGS, ZL1AAF, ZL1LC

MINUTES- of March General Meeting (April meeting was cancelled) as distributed

Matters Arising- Nil.

Approve Feb minutes- Moved ZL1EK, Seconded ZL1EC Carried.

FINANCE: ZL1DL

Three Subs at $40 already received. Other discussion held over for AGM to follow.

Accept financial statement- Moved ZL4ROB, Seconded ZL1EC Carried

CORRESPONDENCE

1.Rick Taylor ZL1WOT

Offering to gift to the MPRG all the D Star Repeaters complete, Dual Band Yaesu radio (In console) with antenna, Lowe Communication receiver (in Dansk console), ICOM 706 remote Transceiver, Symetrix 421 AGC-leveller and Kenwood TS50.

These generous gifts to the Group were accepted by those present with pleasure. Sec. to write to Rick thanking him for these gifts.

2.Hannah Rollinson re. filming

3.Roxanne Hughes re wedding

4.Chris Challinor thanking for visit with her father Maurie and family

5.Brian Chandler making contact

6.President's correspondence NZART May

7.NZART manager re financial members listed as Br 86

8.NZART Re new examination Procedure (April branch circular)

9.NZART Survey (Peter Mott)

10 Jane Young re father Paul's (SK) morse key donation-to be couriered.

11. Peter Mott Resignation.

CONFERENCE UPDATE-

ZL3CK. Arrangements for the 20+ visitors discussed. Will arrive hopefully in ½ hr groups of 6, 10-12 pm Monday 1 June, members requested to help.

REMITS

The following were eligible to vote and were present at the meeting:

ZL1DL, ZL1DRV, ZL1EC, ZL1NZ, ZL1WOT, ZL2JDH, ZL2MOH, ZL3CK, ZL3XJ

Proxy vote received from ZL1LC for Remit 1 only.

Remit	Vote For	Votes Against	Abstentions	Comment
Remit 1- (Digital subscription as an option)	5 + one Proxy	4	Nil	The consensus was that a digital only Break In should be published and the print version completely discontinued and the delegate so informed.
Remit 2 (Access to digital TV spectrum)	2	7	nil	
Remit 3 (NZART HQ Procedures manual)	9	nil	ni	
Remit 4 (Electronic voting for council)	8	1	nil	
Remit 5 (Replace Chartered Accountant	5	2	2	

ZL3CK agreed informally to be Br 86 conference delegate again this year.

Meeting concluded at 1456, with the AGM to follow. Minutes taken by ZL3CK.

Musick Point Radio Group Inc.

Minutes for the postponed Annual General Meeting held at Musick Memorial Radio Station on May 17th 2026 at 1427

Present-

14 Financial Members : ZL1AQS, ZL1DL, ZL1DRV, ZL1EK, ZL1MRT, ZL1NZ, ZL1OJ, ZL1TOF, ZL1WOT, ZL2JDH, ZL2MOH, ZL3CK, ZL3XJ, ZL4ROB

Apologies received: ZL1BQE, ZL1TGS, ZL1AAF, ZL1LC

Minutes of previous AGM April 13th 2025 : No errors, omissions or matters arising were tabled. Minutes- Accept as circulated : *Proposed accept* – ZL2MOH, *Seconded*- ZL1EK : Passed unanimously.

Finance- The Treasurer's report for YE 31 March 2026 was circulated and read out by ZL1DL. Membership has had modest increase over the year. The year ended with a small trading loss accounted for mainly by fewer sale items this year. Main expenses are data and insurance. These are anticipated to rise again this year by an uncertain amount. This will probably result in another small loss, for which however we have sufficient reserves to cover, therefore no increase in Subs for 2026-2027 recommended by the Treasurer.

Agreed by the meeting that the annual sub to be held at of $40.

Financial report subject to satisfactory review anticipated in the near future. *Proposed Accept*- ZL1EK, S*econded*- ZL4ROB : Passed unanimously.

Reports from the Chairman, Newsletter Editor (verbal) and Webmaster(verbal) were given.

Election of Officers No prior nominations were received. All position holders agreed to continue in the respective portfolios – no other nominations were received. Elected and other positions were confirmed as below-

Position	*Nominee*	*Nominated by*	*Seconded by*	*In Favour*
Chairman	David ZL1DRV	ZL1DL	ZL4ROB	All
Secretary	Martyn ZL3CK	ZL1DRV	ZL2MOH	All
Treasurer	Dave ZL1DL	ZL3CK	ZL1DRV	All
Newsletter editor	Martyn ZL3CK	N/A	N/A	All
Webmaster	Neil ZL1NZ	N/A	N/A	All

AREC- Rob ZL4ROB is the club's AREC Group Leader and agreed to continue in that role.

General Business

ZL1DL- Spark(NZ) Ltd. representatives recently visited.

Need to continue efforts to keep building tidy and continue decluttering, especially in view of upcoming visit in two weeks by about 20 from the NZART conference.

Discussion of managing the visitors; sale of used equipment currently stored in the generator room; and possibility of a "junk" sale sometime.

Neil ZL1NZ- noted that Graham ZL1TOF has done a good job as Building Maintenance coordinator with ongoing efforts to improve many aspects of the interior.

There being no further business, the Annual General Meeting was declared closed at 1457Hrs
Minutes by ZL3CK.

MUSICK POINT RADIO GROUP INC., ZL1ZLD- Branch 86 NZART

(formerly Suburban Amateur Radio Club Inc.)

Membership Subscription form for Financial Year 1st April 2026 to 31st March 2027
Full year Subscription- TBA after AGM. New Members only-less than one year subscription is Pro-Rata per month.

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 (if you have one) AS PAYMENT REFERENCE.

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

BY SIGNING THIS FORM YOU CONSENT TO THE RULES OF THE CLUB.

Name- …….. Callsign/s-……

Address- ……

Phone/s- ……E-mail- ……..

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) $.....

SIGNED-……Date……..

For Club use only-

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

Approved: **Not Approved:**

Receipted?……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.