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NEW ZEALAND ASSOCIATION OF RADIO TRANSMITTERS - BRANCH 63 UPPER HUTT
Branch 63 Clubrooms
Park Street, Upper Hutt

ZL2VH Newsletter – June 2025

President's Report

See the Climie trip reports below.

Another is planned for Monday 2 June 2025 to hopefully get the SDR back on the air. Some minor 730 work will also be done but not antenna work as this is still a work in progress. The supplied Hi-Tec matching harness has failed and after discussions with the retailer and then the manufacturer we are basically, left to sort it out ourselves. Since the antennas are five years old, the new owners have dismissed any issues as "not our fault" and "happened before we took over". So, this is somewhat what disappointing response means we are working on a fix ourselves. The single dipole on 730 might be there sometime as the weather is now against us at this time of the year. It is expected to have the repaired 50-watt repeater back up at some point after the new power block is fitted. The 3 cm beacon will remain off until the new interconnecting cable is built. No date on this.

NZART AGM Report

Saturday 31 May 2025 was the 99th NZART AGM, held at the Lower Hutt Events Centre, 30C Laings Road, Lower Hutt. Registrations opened at 8:00 am with the AGM starting at 9:00 am.

The usual opening speeches were done and to get things going. The main interest of course was the Remits as published in the March/April 2025 issue of Break-In.

Subs increasing by $5.00 across the membership groups excluding Student's which remains at $10.00. Rebate of $15.00 excludes Student's - if paid by 30 November 2025. So normal membership is $130.00 is rebated to $115.00 if paid by that date.

Remit 1: Passed.
Remit 2: Passed.
Remit 3: Withdrawn - due to changes involving Remits 1 and 2 with AREC.

Remit 2 was dealt with first and was to allow non-members to be associate branch members. This opened the door to allow non-NZART members to be AREC members using non-amateur frequencies.
There was not too much debate on that one.
Remit 1 was a lengthy debate on the actual wording of the remit. The one published in Break-In apparently wasn't the one agreed as the one to be used. Anyway, it was resolved with an amendment to allow non-members to be AREC members and that amateurs MUST be members of NZART to be in AREC (this has always been the rule). So, the debate was around a hypothetical situation around members/non-members. The wording took some time to sought out. It was passed after a debate about how far from the original it was going - delegates from a few branches didn't want to vote on it but was put and passed.

The proposer of Remit 3 then withdrew that remit since there was now a greater entry point into radio which is what they were wanting.

The 100th NZART AGM in Auckland next year update was extremely disappointing. All I can say is it's in Auckland; I assume over Kings Birthday Weekend: 30 May - 1 June 2026. No venue is booked, no programme is available, no guest speakers announced – nothing. They have been at this work

for over three years having been confirmed at Napier in 2021. So is it worth going or booking any accommodation yet, let alone travel – I guess not.

Conference AGM Lower Hutt 2025.

Repeater Report

Repeater: Status

Climie KiwiSDR	Off Air
10 m Beacon (28.229 MHz)	On Air
3 cm Beacon (10368.275 MHz)	Off Air
1292 (23 cm)	On Air.
D-Star 5425, 860	5425/860 On Air
730	On Air
395 (6 m)	On Air

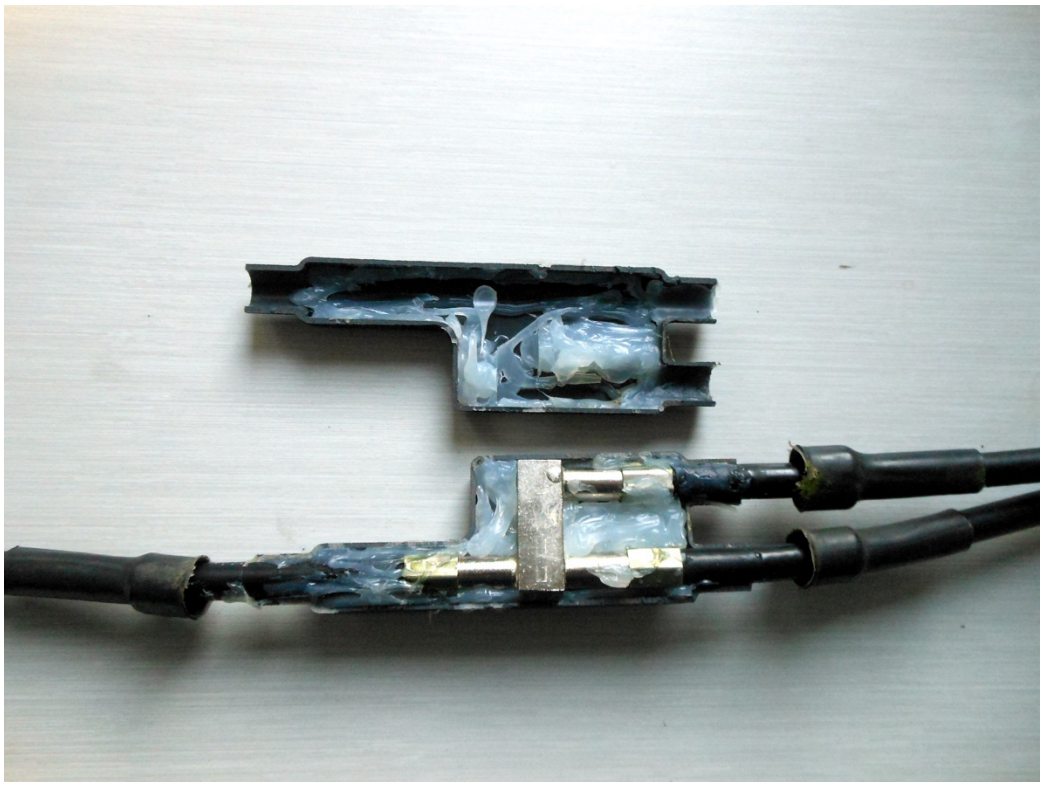
Mt Climie: 21 May 2025

Wednesday 21 May 2025 the following members attended Mount Climie for repeater maintenance.

Paul ZL2TQA, Mark ZL2UP, John ZL2TWS, Mark ZL2UFI and Mike ZL2BPL.

Jobs completed:
1) Swing down faulty 730 HiTec FDE3-SA antenna and replace with a service spare single dipole.

- The FDE3-SA was disassembled to find that the lower dipole N connector had water in it.
- The upper dipole N connector to splitter was dry and clean.
- The feeder coax was stripped back to find water was starting down the outer braid and in the centre.
- Water looks to be getting into the combiner splitter and travelling down the coax and into lower dipole.
- The antenna and splitter have been returned to the supplier for comment by HiTec.



- Spare in service dipole Power forward = 19 Watts, Power Reverse = 0.6 Watts. SWR = 1.43, Return loss 15 dB.
- FDE3-SA was measured with an SWR of 2.2 and return loss of 8 dB so it was getting bad with the water.

2) Convert the SDR longwire antenna egg insulators from tension to compression and put back on the masts.

3) Investigate why the 3 cm beacon antenna and power box has gone from Vertical to Horizontal.

- Incorrect length galvanized steel mounting bolts with many washers used as packers to secure the pipe clamps.
- This had gotten loose over time and heavy weather pushed the antenna to horizontal position.
- Correct full thread length SS bolts with flat and spring washers fitted to bring the antenna vertical again.

4) Removed spare coax cables clear of 3 cm beacon and Meshtastic cables so they can be drawn back to the south hut next summer.
5) Lift 6 m 395 dipole up the mast by 150 mm and out from the mast another 150 mm to get further away from the SDR antenna.

Special thanks to Paul ZL2TQA for his determination to get the SDR longwire as a secure installation to survive the winter months.

Mark ZL2UP and the 4 x 4 Rover winch proved to be a smooth and safe way to lower the 730-antenna mast.

Special thanks to Mike ZL2NSA for the loan of his snatch block pulley and shackles.

Mike ZL2BPL and Mark ZL2UFI worked on the dipole disassembly.
John ZL2TWS connection of the spare service dipole, testing, cable tidy up, 395 dipole shift and 3 cm antenna repair.

A perfect day out with no wind and moderate temperatures that stated at 09:00 and finished back at Plateau road at 14:30.

73, John ZL2TWS

Update: 730 back on the air - 10 May 2025

On Saturday 10 May 2025 a fine, warm still day that was ideal for maintenance, Murray ZL2IQ and John ZL2TWS visited Mount Climie to investigate why 730 had gone dead some days earlier.

The jobs to be done were:

- 730 service call out to investigate why 730 was dead.
- 395 MK2 CTCSS repeater to be installed.
- DV / FM repeaters on 5425 / 860 CTCSS tone change to suit older FM rigs.

730

The repeater was still running from the Climie site however a "Low Forward Power" alarm was displayed on the PA front panel. A watt meter was connected to the antenna feeder coax. Zero power was measured. The PA was either dead or the exciter driver board was dead. This was not repairable on site so the T800 MKII 50W repeater was removed and replaced with the club's service spare T800 MKII 25W Slimline repeater.

The re-purposed old 860 15 Amp Linear PSU has been fitted to power the T800 MK2 Slimline repeater. The Slimline repeater is a 13 VDC only supply and does

not have its own PSU like the 50-Watt model. The Tait 15 Amp Linear PSU is floating the battery at 13.7 VDC.

Reports from users were that the signals had increased and at my own QTH the signal has gone from S-9+ to +20dB over 9.

The test done by Alan ZL3LAB and John ZL2TWS on the 15 December 2024 identified that 730 output power was slowly dropping since the previous test 8 May 2024 and 15 February 2020 where the power was higher.

Slow degradation of components inside the 25-year-old repeater is the most likely cause of total failure.

The power degradation was discussed at the end of general business of this year's AGM and that a replacement 50-Watt Tait repeater should be budgeted for.

We are currently waiting for Tait mobile radio to quote Branch 63 for a suitable replacement FM repeater.

NOTE: The T800 MK2 Slimline does not transmit 67 Hz CTCSS to auto enable the IRLP receiver. Members wanting to use IRLP must transmit 67 Hz on their 147.900 MHz TX into the repeater. IRLP is re-enabled and works well providing users TX 67 Hz on their input to 730.

395

The MK2 GE newer 1980's build repeater of the club's repeater pair was installed. This repeater uses 151.4Hz tone on the TX carrier and allows users to receive only voice traffic via 395 and mute the beacon.

The repeater beacons every 30 minutes.

Additional cooling fans were fitted. The repeater has a continuous output power of 70 watts.

5425 / 860 FM

CTCSS access tone has been changed to 173.8 Hz as the previous tone was not available to use with older FM rigs. This was found when 730 went QRT some rigs would not program some tones due to their age.

The new tone is from the older "mobile radio" chart of tones and universally compatible.

Special thanks to Murray ZL2IQ for making his vehicle available for transport today.

73, John ZL2TWS

EME Newsletters

Latest EME Newsletters for May 2025:

https://eme.radio/images/newsletter/pdf/2025-05-vol-54-05.pdf

144 MHz EME:
http://www.df2zc.de/downloads/emenl202503_final.pdf

432 and above EME newsletter is due out 1st May and can be viewed here after publication: https://eme.radio/432-and-above-newsletter

ICOM: Programming software

As you are aware the clubs' two ICOM DSTAR repeaters can do FM. When programming up your ICOM software if your transceiver can do DSTAR then this is how it should look:

TONE(T)/TSQL(R)	173.8	173.8	023	Both N
TONE(T)/TSQL(R)	173.8	173.8	023	Both N

Some members have asked how to do this in the software freely downloadable from ICOM's web site. https://www.icomjapan.com/support/firmware_driver/

This setup also mutes the DSTAR or digital transmission allowing only FM transmissions to open the squelch on your transceiver. Ideal for those scanning or using the DSTAR repeaters in FM mode if your transceiver doesn't support DSTAR.

Hamvention 2026

It's been over ten years since I was last in Dayton was at Hara Arena but now at the Greene County Fairgrounds and Expo Center, 120 Fairground Road, Xenia, OH 45385. The date of Hamvention 2026 will be 15-17 May 2026 (https://hamvention.org). This is always the third weekend in May.

Over the next year Air New Zealand (AirNZ https://www.airnewzealand.co.nz) will have at least three special deal periods where you can purchase flights cheaper than normal pricing. I will email out when this happens, so you can decide on the deals. They normally run for two weeks. In times past, I have normally travelled via Chicago, hired a car and driven to Dayton. The drive is about five hours. Air New Zealand used to fly direct from Auckland to Chicago but have stopped this as they have having engine supply issues. The nearest AirNZ will get you is via Houston (Dayton does have its own airport but no direct flights from Houston). Or via Los Angeles or San Francisco if you are looking for more options on the way there or back.

I intend to book some accommodation as early as possible and will look at flights later. Once I have some accommodation options I will advise.

For those wanting to travel and attend I'll meet you at the accommodation prior to the Hamvention. Tickets for Hamvention USD$26.00 are easily purchased prior to the event and will be delivered to you in New Zealand, if they follow previous years.

So, I am going again next year. While not wishing to attend by myself and it's always better to experience this with others, I will go it alone if required. Anyway, the invitation is there for a bucket list event if you are interested.

Contact me if interested: mark@foxtrot.co.nz

Update to 2G/3G Network Shutdowns

New Zealand has moved its 3G switch-off date out from 31 March 2025 to **31 December 2025**, the same date it is planning to switch off its 2G network.

If you're using devices that rely on these older networks—such as legacy IoT or M2M equipment—now is the time to plan your migration to 4G or 5G technology.

What are the 2 square holes in USB connectors for?

We take a lot of technology for granted these days — the convenience of USB that we overlook is perhaps one of the best examples of this. The Universal Serial Bus standard was released by Intel in 1996, in collaboration with other organizations like IBM, Microsoft, and Compaq. Before USB was a thing, most

connections to external accessories like printers, storage devices, and other computers required users to rely on an assortment of ports and cables.

Zoom past a quarter of a century, and nearly every smart electronic is powered by USB — either for charging or data transfer. There have been several generations of USB over the years, with the most modern being the compact and reversible USB Type-C connector. However, most still picture a full-sized Type-A port when they think about USB. If you've ever closely inspected one of these cables, you must have noticed two square holes on either side of the connector.

Though these don't directly facilitate the connection between a male and a female USB port, these holes are important for stability, thanks to the locking mechanism they house. These work similarly to how the two holes in electrical prongs prevent the plug from being yanked out of the socket when minimal force is applied. It's a simple yet effective design feature in USB connectors that is easy to overlook but deserves recognition given its crucial role in ensuring a secure connection.