

THE WORLD BELOW

400 GHz

The Periodical Newsletter of the
WAIKATO VHF GROUP Inc.,
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**NZART
BRANCH 81**

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DECEMBER 2025 ISSUE



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General Meeting December 2025

A General Meeting of the Waikato VHF Group will be held on

Sunday, 7th December 2025, 1:30pm

at the Silver Fern Farms Event Centre, (aka Te Aroha Events Centre),
44 Stanley Ave, Te Aroha (Ballance Room, our usual venue)

Our guest speakers will be John ZL2XJ and Steve ZL2RI who'll talk about AREC operations
and show off some of their equipment.

The "WaiPlenty" 2m network on 146.950 will be monitored prior to the meeting for anyone requiring directions.

***Supporting amateur radio on VHF and higher frequencies
across the Waikato & Bay of Plenty since 1963***

Read our history at https://www.zl1is.info/docs/WVHF_Group_History.pdf

National System usage guide:

The following guide re use of the National System is published with permission of the Auckland VHF Group who operates and maintains the Klondyke repeater site where equipment is housed in a concrete building which is not air conditioned. Extended use of the National System can cause significant heat build up. While the design of the system is such that the transmitters can be operated for extended periods without failure, they do request that use of the National System is kept to a “reasonable” amount to avoid long term damage to the equipment. **This is particularly true on very hot summer days** where the exposed site does heat up causing a rise of the internal ambient temperature.

Please avoid use of the National System for local chatter, move to a local repeater or simplex if possible. It holds the whole country on, not just your local repeater. Please make sure to leave a minimum of 3 second gaps between overs. At busy times 5 seconds is recommended. Key-up delay from the Far North to the Far South is several mS so gaps left between overs are very important so others can access if required. Please limit conversation to a max of 20 minutes and if possible move to simplex or a local repeater. Recognise that a conversation on your local National System repeater activates the whole system nation wide.

Maungakawa ‘5575 off air:

Our WaiPlenty network repeater at Maungakawa suddenly disappeared off the air in early July 2025. It was subsequently discovered that its 12V DC power supply had failed due to vermin urine deposited though our power module’s perforated top cover had caused a flash-over between the mains and low-voltage circuitry on its PCB. Our trustees decided to replace that module with different make/model having a solid top cover to eliminate that risk (photo on last page of this newsletter). Our power supply is awaiting return to site when someone visits (which is not often).

Te Uku ‘5675 off air:

Our WaiPlenty network repeater and associated links at Te Uku disappeared off the air during the first week of October, we suspect as the result of someone working on site possibly disconnecting its mains electricity supply. Like Maungakawa, we don’t have current access to Te Uku, so are dependent on others visiting that site to investigate on our behalf.

Donation made for Klondyke project:

At the end of September, the Waikato VHF Group donated \$500 to the Auckland VHF Group towards their Klondyke Refurbishment project.

Our Kaimai ULS ‘485 relies on Klondyke for access to the remainder of the National System providing National System access for five dependent repeaters; Hamilton ‘9975, Rotorua ‘9925, Taupo ‘9825, Edgumbe ‘9975, and via that Mercury Bay ‘480.

Seasons Greetings to our Members:

Waikato VHF Group executive thanks all members for your support throughout 2025, and we take this opportunity to wish you a Merry Christmas and Happy New Year which delivers all you need.



Putuaki / Mt Edgumbe repeaters are relocating:

All amateur and commercial repeaters are vacating Putuaki as its Maori owners transition the maunga back to “its original state”. Edgumbe ‘700 (2m) and ‘9975 (National System) were shut down on 9th September 2025. They will relocate to a new site at Manawahe once that is established.

The Waikato VHF Group established the original 2m repeater then called “channel C” on Putuaki / Mt Edgumbe which was commissioned on the 2nd March 1975, subsequently becoming Edgumbe ‘700. On 15th December 2001, with the Kawerau Radio & Hobbies Club we assisted in establishing an extension to the National System, ‘915, which became ‘9975 on 5th December 2005 under the current band plan.



Repeaters at Putuaki / Mt Edgecumbe prior to their removal during September 2025

- Left: EE'700 (2m) repeater in rack above '9975 National System repeater plus Link with Kaimai.
 Right: mast with 4x UHF dipole array ('9975) above 2x VHF dipole array ('700).

Request to use 430~440MHz (70cm amateur band) by USA space company:

AST & Science, LLC (AST SpaceMobile of Texas, USA) has filed with the FCC to use the 430~440MHz 70cm amateur primary allocation for telemetry, tracking, and command (TT&C) from ground stations to its satellites (and back) as part of a projected constellation of some 248 satellites.

Amateur radio organisations (ARRL in the U.S., AMSAT, IARU, and a number of national societies including RSGB) have strongly objected or submitted comments against AST's proposal. Their concerns centre around interference, precedent, the lack of demonstrated need, and risk to existing amateur satellite operations. The amateur radio community continues to push back, arguing that the grant is insufficiently justified or that the restrictions need to be stricter.

NZART supports these efforts, and believes that only the IARU Satellite Frequency Coordination Panel (voluntary and globally trusted) should coordinate amateur satellites. IARU has decades of expertise, a neutral global view, and the trust of both regulators and the amateur community. However, NZART recognises that IARU coordination has no legal force - its role is advisory, not regulatory. Only national regulators (like RSM, FCC, Ofcom, etc.) have the legal authority to issue licences, enforce compliance, or approve non-amateur use.

Therefore, if a commercial operator (such as AST) wants to use 70cm for TT&C, only the national regulator can legally authorise it (and must do so within ITU rules).

NZART has, via the Association's Liaison Officers, formally conveyed its concerns to RSM regarding the potential use of the 430~440MHz band by commercial satellite operators, and expect to discuss the matter further at an upcoming face-to-face meeting with RSM, where we will continue to advocate for the protection of amateur spectrum and the integrity of IARU coordination processes.

There has been a recent decision by the FCC Space Bureau granting AST limited permission to use the 430~440MHz amateur allocation for TT&C of additional satellites, with restrictions. The amateur community's large volume of comments appears to have influenced limiting of that grant.

Comments filed by the International Amateur Radio Union may be viewed at <https://rb.gy/9cercn>



NZART Centennial Conference 2026:

Forums...

What are you expecting for talks/forums at the 2026 NZART AGM/Conference?

Would you like to give a presentation, and approximately how long might that presentation take?
1 hour slots with the first and last 5 minutes to move in and out of the location are being allocated.

If you're willing... please advise your call-sign, name and email contact details, so we can contact you to finalise matters.

ZL100C... this call-sign is special and sought after by hams, worldwide.

If you'd like to use this call-sign for a time... please email David Karrasch, zl1dk@nzart.org.nz with the dates, times, bands and modes so he can add your details to the register of operators.

David will send you a reply within 24 hours with approvals, depending on other operator's bookings.

You will be required to send David a computer-generated adif file of your log daily, with all contacts so he can add those to QRZ.com. Paper logs are no good... it must be a computer-generated log to add details into QRZ.

Thanks for your consideration.

Regards

Ian Ashley, ZL1AOX,
2026 Conference Secretary.

New Zealand 2m Band Plan (2022)

Band plan to assist operators to quickly see where they should use their radios:

- 144.025 to 144.035 Earth-Moon-Earth (EME) All modes (Region-3)
- 144.000 to 144.100 Earth-Moon-Earth (EME) All modes (Oceania)
- 144.100 Oceania (External to NZ) SSB & CW Calling.
- 144.120 JT65, MSK144, Q65, FT4, FT8. Narrow Weak signal DX (All Regions)
- 144.174 FT8 Narrow Mode Weak Signal DX (Region-3)
- 144.200 New Zealand (Internal to NZ) SSB & CW Calling.
- 144.230 Meteor Scatter. All modes.
- 144.250 to 144.300 Beacons (Geographical Plan - 1 kHz spacing) (Horizontal Polarisation)
- 144.300 to 144.335 WSPR, FTx, JTx, CW non geographic beacons. Narrow, 200 Hz or less.
- 144.350 Rotorua Linear Repeater Output.
- 144.400 Legacy modes. AM, RTTY & Experimental. [\(Note-1\)](#)
- 144.450 Linear Repeater output Spare for future use. [\(Note-1\)](#)
- 144.489 WSPR Narrow Mode Weak Signal DX (Region-3) [\(Note-1\)](#)
- 144.500 FM Calling frequency. [\(Note-1\)](#)
- 144.550 Narrow Digital mode. [\(Note-1\)](#)
- 144.575 APRS and Simplex Data. [\(Note-1\)](#)
- 144.600 to 144.700 Digital Voice (DV) Modes Simplex. [\(Note-1\)](#)
- 144.625 Digipeaters Licenced in some regions. [\(Note-2\)](#)
- 144.650 Packet radio, Digipeaters and other legacy data modes
- 144.725 to 145.200 Repeater Inputs.
- 145.225 FM Simplex Experimental modes.
- 145.250 Narrow Band Picture Modes (SSTV, Fax, Hellschreiber etc)
- 145.275 to 145.300 FM Simplex Experimental modes.
- 145.325 to 145.775 Repeater Outputs.
- 145.800 to 146.000 Satellite Operations (Region-3 & International allocation)
- 145.825 Satellite APRS (Region-3)
- 146.025 to 146.400 Repeater Inputs.
- 146.425 to 146.600 FM Simplex General use.
- 146.625 to 147.375 Repeater Outputs.
- 147.400 to 147.450 DV Hotspots.
- 147.475 to 147.600 FM Simplex General use.
- 147.625 to 147.975 Repeater Inputs.

2m VHF Band Plan Notes

Note-1: Australian Beacons operate from 144.400 to 144.600. QRM could be caused to operators listening for Australian beacons.

Note-2: DV Users should give way to Licensed Digipeater traffic.

New Zealand 70cm Band Plan (2022)

Band plan to assist operators to quickly see where they should use their radios:

- 430.000 to 431.950 Repeater links and Repeater 7MHz offset Inputs ([Note-3](#))
- 431.950 to 432.000 Earth-Moon-Earth (EME) All modes Guard Band (Oceania)
- 431.900 to 432.240 Earth-Moon-Earth (EME) All modes (Region-3)
- 432.065 JT65, MSK144, Q65, FT4, FT8. Narrow weak signal DX (All Regions)
- 432.100 to 432.300 Narrow Band modes (Bandwidth 6 kHz or less)
- 432.100 Oceania (External to NZ) SSB & CW Calling)
- 432.174 FT8 Narrow weak signal DX (Region-3)
- 432.200 New Zealand (Internal to NZ) SSB & CW Calling
- 432.230 Meteor Scatter. All modes.
- 432.250 to 432.300 Beacons (Geographical Plan - 1 kHz spacing) (Horizontal Polarisation)
- 432.300 WSPR Oceania frequency
- 432.300 to 432.312 WSPR, FTx, JTx, CW non geographic beacons. Narrow, 200 Hz or less.
- 432.325 to 432.375 FM Simplex General use.
- 432.400 Legacy modes. AM, RTTY & Experimental
- 432.425 to 432.475 FM Simplex Experimental modes.
- 432.500 FM Calling frequency.
- 432.525 Legacy modes. AM, RTTY & Experimental
- 432.550 Narrow Digital modes.
- 432.575 APRS and Simplex Data.
- 432.600 Digital Voice (DV) Modes Simplex.
- 432.625 to 432.675 FM digital modes.
- 432.650 Packet radio, Digipeaters and other legacy data modes
- 432.675 Packet radio, Digipeaters (Secondary allocation)
- 432.700 VOIP FM Simplex.
- 432.725 to 432.800 Digital Voice (DV) Modes Simplex.
- 432.825 to 432.975 FM Simplex General use.
- 433.000 to 434.975 Repeater Inputs / Outputs ([Note-1](#))
- 434.800 to 435.000 National System Repeaters Network ([Note-1](#))
- 435.000 to 438.000 Satellite Operations (Region-3 & International allocation)
- 438.000 to 439.775 Repeater Inputs / Outputs ([See Note-1 & Note-2](#))
- 438.325 to 438.375 DV Hotspots.
- 439.800 to 440.000 National System Repeaters Network ([Note-1](#))

70cm UHF Band Plan Notes

- Note-1: Repeaters in this band are either Positive or Negative 5 MHz offset but where there are problems with SRD / LIPD devices on the repeater input a suitable offset repeater frequency pair can be obtained from ELG.
- Note-2: Repeaters in this band are historically using a negative receive 5 MHz offset, however where avoidance of SRD / LIPD devices may be required, the frequency pairs may be reversed. This is not recommended where the repeater is located in a built up area. Alternatively a 7MHz negative receive offset can be used where appropriate. ([See Note-3](#))
- Note-3: Used for repeater input links and repeaters with outputs in the 438.000 to 438.950 range. These repeaters are treated on a case by case basis where they may be unable to operate using the standard 5MHz negative offset due to SRD / LIPD interference.
- Note-4: Australian Beacons operate from 432.400 to 432.600. QRM could be caused to operators listening for Australian beacons.

New Zealand VHF Contests:

6th and 7th December 2025 — VHF Field Day Contest

All bands 6m and up operating with 1 hour periods are Saturday 5pm (1700) to 11pm (2300) and Sunday 7am (0700) to 1pm (1300) NZ local time.

For the full set of rules etc., go to: <https://www.nzart.org.nz/activities/contests/vhf/>

14th and 15th February 2026 — DX (VHF) Weekend Contest

All bands 6 m and up, operating with 1 hour periods are Saturday 5pm (1700) to 11pm (2300) and Sunday 7am (0700) to 1pm (1300) NZ local time.

For the full set of rules etc., go to <https://www.nzart.org.nz/activities/contests/vhf/>

'For Sale' items on Waikato VHF Group Web site:

When our new web site was created last year, we included a page for items offered for sale, see <https://www.zl1is.info/sale.html> Links to this are under the home page header 'SALE' tab.

Past Newsletters:

Copies of our newsletters going back to 2005 can be viewed at <https://www.zl1is.info/newsletters.html>

Under the 'Resources' tab on our web site are links to a range of useful web sites. Members are welcome to submit items for listing on our web site.

Subscriptions:

Members are reminded that our financial year is the same as a calendar year, so **subscriptions fall due on 1st January each year**. Subscription rates for 2026 remain the same as they were for 2025, and are as follows:

Member or Associate	\$35.00
Family or Club Member ¹	\$40.00
Student Member ²	\$20.00

1. Family members = two or more members residing permanently at the same address, please provide all names & callsigns.
2. Student member = currently enrolled at NZ secondary school or tertiary educational institution.

Subscriptions can be paid by Direct Credit to our Westpac account 03 1555 0091289 00
Please enter your name/callsign in the transaction description so we can identify who payment is from.

Contact details etc should be updated using our subscription form which available on our web site at

https://www.zl1is.info/docs/MEMBERSHIP_FORM-A5_V25-2.pdf

These are the minutes of our last general meeting



**WAIKATO VHF GROUP Inc.
NZART Branch 81**

Minutes of General Meeting

Held at the Te Aroha Events Centre, 44 Stanley Ave., Te Aroha,
on Sunday, 21st September 2025 at 1.30pm.

Present: - (10 members) David ZL1DGK (President), Ian ZL1TAT (Treasurer), Neill ZL1TAJ (VP), Maxine ZL1FW, Roy ZL1BPB, Digby ZL2TUZ, Wally ZL1WE, Chris ZL1CJH, John ZL1PO, Rod ZL1TFX.

Apologies:- Morris ZL1ANF, Joline ZL1UJB, Kevin ZL1KRH, David ZL1TLQ, Tom ZL1THG, Alan ZL1AMW, Ian ZL1AOX.

(ZL1DGK /ZL1TAT) – accepted

Minutes:- Minutes of our 22 June 2025 (previous) general meeting as circulated with our 5th September 2025 notice of this meeting.

Adopted on motion of ZL1TAJ, seconded ZL1BPB – carried.

Matters Arising:- Appointment of replacement Secretary coming up later in this meeting.

Correspondence:- Many other clubs don't go through their In/Out correspondence at a general meeting as its already been dealt with by their committee. Are members in agreement that we do the same?

Adopted on motion of ZL1DGK, seconded ZL2TUZ – carried.

Finances:

- Our 12-month Term Deposit of \$8,000.00 established on 17 September 2024 has just matured, and is being re-invested for a further twelve months. A second 12-month Term Deposit of \$6,500 was opened on 12 June 2025.
- Appreciation was expressed to Tom ZL1THG for operating our table at Branch 12's Market Day, bringing in \$445 towards our Group's funds.
- The Group's Bank Balance stands at \$5,158.74 following payment of our annual radio licence fees.

Accepted on motion of ZL1TAT, seconded ZL1CJH, – carried.

General Business:

- **Te Uku '5675** regained its modulation in July, however the **Hamilton facing IRLP link Tx remains failed**. A work-around for IRLP access into our WaiPlenty network was implemented in August and IRLP activity is being logged.
- **Maungakawa '5575** stopped operating in early July. A contractor working on site determined our power supply was not producing DC output, so the P/S shelf was returned to Hamilton. Cause of that failure was vermin urine deposited through the original power supply's perforated top cover onto its PCB. To eliminate that risk for future, our Trustees decided to replace that power supply with another make/model having a solid top cover plus added a cage enclosing wiring between the new power supply output connections and shelf front panel.
- **Replacement Secretary:-**
Alan ZL1AMW (NZART President 1997 to 2001 and our President from 2008 to 2017) has re-joined the Waikato VHF Group Inc following a period of years away from amateur radio forced by substantially increased business commitments and increasing support for his now wheelchair bound wife. Alan has generously offered to fill our vacant Secretary role, an offer already acknowledged by our committee with a recommendation to this meeting to accept his offer.

Motion: that **this meeting of Waikato VHF Group members accept Alan ZL1AMW's offer to fill our vacant Secretary position;**

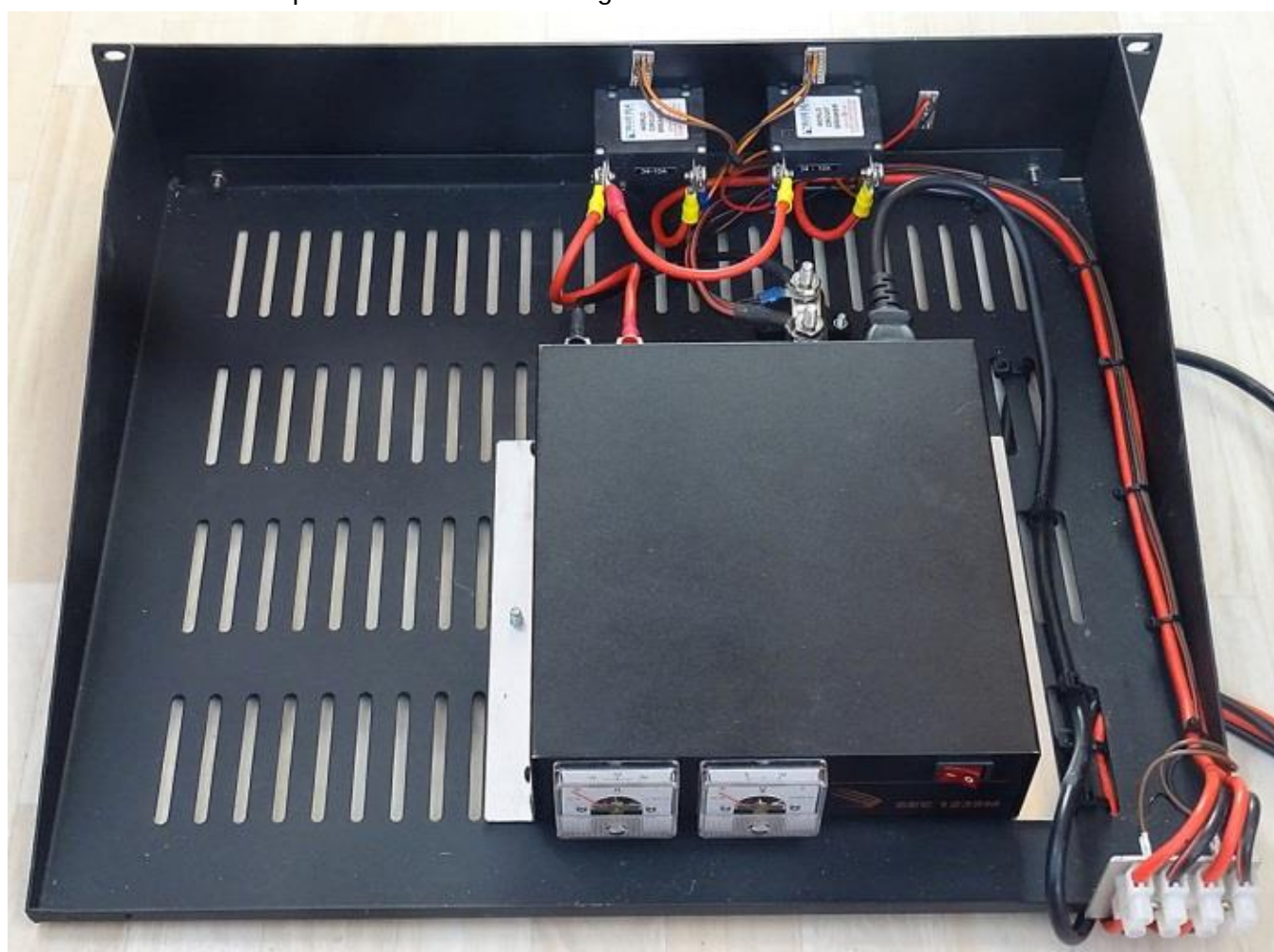
- Adopted on motion of ZL1DGK, seconded ZL1TAJ – carried with acclamation.

Guest Speaker: - **Video presentation of Dick Smith VK2DIK's** 2014 entertaining talk to Manly Warringah Radio Society about getting into radio and his first solo helicopter flight around the world plus hot air balloon flights across Australia and between New Zealand and Australia.

The **meeting closed** at 1503 hrs followed by afternoon tea thanks to David ZL1DGK.

Updated Power Supply shelf for our Maungakawa repeater & link

overhead rear view of rack-mounting shelf
with protective cover enclosing circuit breaker connections removed



Samlex SEC-1235M power supply includes voltage and current meters