

THE WORLD BELOW

400 GHz

The Periodical Newsletter of the
WAIKATO VHF GROUP Inc.,
ZL1IS,
C/- 35 Lancaster Street,
Dinsdale,
Hamilton 3204



**NZART
BRANCH 81**

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SEPTEMBER 2025 ISSUE

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General Meeting September 2025

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

Sunday, 21 September 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 speaker will be VK2DIK, probably better known to you as Dick Smith. In a video, he'll talk about how he got into radio and the adventure of his first solo around the world helicopter flight.

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

New Constitution:

Our 2025 Constitution, approved at our 16 March 2025 AGM, was approved by NZART Council on 2 June, then registered under the 2022 Incorporated Societies Act and a new Certificate of Incorporation issued on 11th July 2025.

This is now in operation as the Waikato VHF Group's official Constitution, and is published in full on our web site at https://www.zl1is.info/docs/WVHFG_Constitution.pdf

Communicating via 'the long path':

Many of us are familiar with the concept of using amateur radio for Earth-Moon-Earth (EME) communications. With the advent of digital modes such as JT65 and Q65 it has become relatively commonplace for quite modest stations to experience the thrill of making a contact with another amateur radio station by bouncing signals off the moon.

Well, the Deep Space Exploration Society (DSES) kicked off a project to bounce signals of the planet Venus which, after much preparation and many technical challenges, became successful on 22nd March 2025 using 1500 watts of RF power on the 23cm ham band. Transmission took place from Dutch and USA sites with the return signal being detected by Dutch and German stations using 25-meter dishes.

Previously, in 2009, a German AMSAT-DL team successfully reflected a 13cm (2.3GHz) signal off Venus using approximately 6,000 watts of RF from the Bochum Observatory 18.3 meter dish however this was the first time an EVE bounce had been attempted on the 23cm band (1.3GHz).

In case you're tempted to repeat this achievement, the path loss on this approximately 154 million kilometer round trip has been calculated at a formidable 345dB, and no commercial equipment exists that can generate 1500 watts on the 23cm band. The full story can be found on the following link <https://tinyurl.com/4zzp3bc2>

Thanks to: The Deep Space Exploration Society. (K0PRT)
The Plishner Radio Astronomy and Science Center (Colorado)
Paul Sobon, NOOT, President

See more about Venus at <https://www.youtube.com/watch?v=BvXa1n9fjow&t=200s>

Te Uku '5675 has regained its voice

Our WaiPlenty network repeater at Te Uku mysteriously went down in March 2024 (suspect due to others working on site, and after it was found back on the air our '5675 repeater Tx had no modulation while linking through that site was still functioning. '5675's modulation reappeared in August 2024 before disappearing again in September, remaining that way until July 2025 when everything appeared to be back to normal. Without an ability to visit the site, remote diagnosis indicated the repeater was suffering from a scrambled software issue. Removing and restoring its AC supply, possibly when the standby generator was test run, did the job of re-booting the repeater back to normal.

Maungakawa '5575 off air

Our WaiPlenty network repeater at Maungakawa suddenly disappeared off the air in early July 2025. It was discovered its 12V DC power supply had failed, so a visiting contractor removed our power supply shelf and returned it to Hamilton. Cause of the failure was rat pee deposited though the power module's perforated top cover resulting in a flash-over between the mains and low-voltage circuitry on the PCB. Our trustees have decided to replace that module with different make/model having a solid top cover to eliminate that risk. Our power supply will be returned to site when someone is visiting (not often).

IRLP restored to WaiPlenty network

Our IRLP link transmitter at Te Uku failed earlier this year, and without site access couldn't be repaired. A work-around was implemented on the 8th August restoring IRLP access via Te Uku '5675, Te Weraiti '695 and Waihi North '5475.

'For Sale' items on our 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.

Quiz Night – coming up soon, on September 14th:

Warren ZL2AJ will be running a Quiz Night across our WaiPlenty 2m repeater network on Sunday evening 14th September. Pre-registration is required, details in the notice below.

Quiz Night – On The Radio

Tune in on the 14th of September – Sunday evening to join in an evening of fun – on the air.

Register: Email warren@zl2aj.com to be sent a registration form before the quiz night.

All participants need to register. No cost.

You will be sent an answer book – you will need to use email to send in your answers at the end of each round.

Live results will be on google sheets – if you want to see the live results there will be a space on the registration form to provide your gmail address.

Check ins at 1830 – quiz starts at 1900.

10 rounds of 10 questions. Different topics. Plus a who (or what) am I long running question.

You wont need to transmit on the evening – but you will need your email to submit your answers.

Broadcast will be on the Waipently network **146.950, 145.475 and 145.675**. 145.575 is currently off air.

This is the first time we are using this format on the air – so will be looking to refine the model accordingly.

Join in for the fun.

Email warren@zl2aj.com to register. Registration for this one is free. If the format works well we may use it for fundraising in the future.

Warren – ZL2AJ

warren@zl2aj.com

021 649284 (after hours calls only please)

With our last meeting being our June GM, these are the minutes from 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, 22nd June 2025 at 1.30pm.

Present: - (11 members + 1 visitor) David ZL1DGK (President), Ian ZL1TAT (Treasurer), Neill ZL1TAJ (VP), Roy ZL1BPB, Wally ZL1WE, Digby ZL2TUZ, Dennis ZL1UET, Maxine ZL1FW, Doug Phillips ZL1AAC, Chris ZL1CJH, Rod ZL1TFX, Ian ZL1AOX.

Apologies:- Kevin ZL1KRH, David ZL1TLQ, Morris ZL1ANF, Joline ZL1UJB, Tom ZL1THG, Russell ZL1RWR, John ZL1PO.

(ZL1DGK /ZL1UET) – accepted

Minutes:- Minutes of our 8 December 2024 (last) general meeting as circulated with our 10th June 2025 notice of this meeting.

Adopted on motion of ZL1DGK, seconded ZL1TAT – carried.

Matters Arising:- Appointment of replacement Secretary yet to occur, offers welcome!

Correspondence:-

- Inwards**
- Auckland VHF Group 'Spectrum' newsletters for April, May, June 2025,
 - NZART Infoline Nos 498, 499, 500,
 - Genesis Energy invoices for Kaimai electricity April, May, June 2025, plus email of 11 June 2025 advising increased prices for electricity at our Kaimai site.
 - 16 June - NZART HQ advising Council approved our 2025 constitution at their Monday meeting following Conference.

- Outwards**
- 17 March to NZART HQ enclosing our 2025 draft Constitution seeking Council approval.
 - 10th June 2025 newsletter emailed to all current and immediate past members,
 - 10th June to NZART Hamads with FOR SALE notice to go into Break-In,
 - NZART email summarising votes of nine members associated with Branch 81.

That the inward be received and outward approved on motion of ZL1TAT,
seconded ZL1UET, – carried.

Finances:

- A donation of \$2,679.61 was deposited into our account by Waihi Branch 43 (now in recess). Their support is again the direct result of Waikato VHF Group continuing to operate the '5475 WaiPlenty network in their area.
Our bank balances stood at \$5,496.63, plus our 12-month Term Deposits (\$8,000.00) established on 17 September 2024, and \$6,500 12 June 2025.
- Substantial increase in electricity cost (+80% for Line Charge plus +33% for electricity) for our Takaurunga (Kaimai) site become effective from 17 July.

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

General Business:

- **Kaimai National System site:** ZL1TAT reported work required over summer 2025/26 includes replacing rusted door hinges with grade 316 stainless steel hinges, and re-roofing our hut.
- **Electricity supply to Kaimai site,** price increases take effect on 17 July, 80% increase in Line Charge plus 33% increase in energy supply.
- **RSM review of Radio Licence Fees 2025;** submissions closed on 11th April 2025. This is a five yearly review, with last price increase in 2017. Under-recovery has existed since then in order to reduce RSM's 'Memorandum Account'. Both options proposed increase of 37% in licence fees for amateur fixed stations (\$50 incl GST to \$68.43). NZART ALO submitted on amateur's behalf, outcome awaited. New fees are likely to be implemented from 2026.
- **Te Uku '5675 still has no modulation,** however received signals are relayed via links to Maungakawa and Te Weraiti. **Hamilton facing IRLP link Tx has failed.** Nil site access currently prevents us from resolving these issues, however alternative arrangements for IRLP access may be considered.
- **Branch 89 Ham Cram;** will be held over weekend of August 16th & 17th (advised by Chris ZL1CJH).

Guest Speaker:

- **Dennis Seymour ZL1UET** gave an illustrated presentation about his construction of a 23cm transverter using Mini Kits surface-mount style.

The **meeting closed** at 1426 hrs followed by afternoon tea thanks to David ZL1DGK.

Approved; **D G King ZL1DGK** Chairman Date/...../.....