

THE WORLD BELOW

400 GHz

The Periodical Newsletter of the
WAIKATO VHF GROUP Inc.,
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WAIKATO VHF GROUP EXECUTIVE

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General Meeting June 2023

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

Sunday, 25th June 2023, 1:30pm

at the Silver Fern Farms Event Centre, (aka Te Aroha Events Centre),
44 Stanley Ave, Te Aroha

Our program will be normal business then Rod Rowe ZL1TFX, assisted by Benn Foster ZL1TKR, will tell us about their involvement with Pye Plant 4 which operated in Hamilton from May 1974 to September 1981 assembling audio products and AKAI cassette decks.

A sub renewal/joining form can be found [HERE](#).

Repeaters/Beacons

The Waikato VHF Group owns and maintains a number of repeaters and beacons in the greater Waikato and Bay of Plenty area. These are available for sponsorship for a period of 1 year. Please see <http://zl1is.info/sites.html> for a list of repeaters, beacons & links that are currently available for sponsorship. If you are interested in sponsoring one of them, please contact our Secretary (ZL1GWP) or Treasurer (ZL1TAT).

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Waikato VHF Group newsletter delivery

Our next (September) and future newsletters will be delivered via email only (there will be no more posted newsletters). So long as we have your current email address, you'll receive our quarterly newsletter (March, June, September and November). To confirm or update your email address in our records, simply send an email to branch.81@nzart.org.nz with your callsign in the subject line.

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HISTORY OF AKRAD RADIO CORPORATION - Waihi

Some members may recall the famous Waihi Junk Sales, held in the Akrad / Pye building on Moresby Avenue in Waihi. This was home to Pye's radio and TV manufacturing through to 1986.



Below is a link to an interesting history article about radio and television development and manufacturing in New Zealand.

- Did you know the very first TV outside broadcast in New Zealand was of a local rugby game transmitted in Waihi during 1954, three years before Al Bell started New Zealand's first experimental Television transmissions in 1957, which in turn preceded the first official TV broadcast from Shortland Street in Auckland on 1st June 1960? That's not to overlook Professor Robert Jack's (Otago University), experiments with TV commencing in 1924. Pioneers indeed!
- Did you know electric fences were also manufactured in Waihi in 1937?
- During 1947, Wellington Taxis were supplied with 30 Pye VHF radiotelephones made in the Waihi factory.
- In the 1970s, 50% of colour TV production at Waihi was exported, including to Hong Kong, Singapore and China!
- Among the non-electronic products, more than 300,000 "Akrad Flyer" tricycles were manufactured at Waihi, and in 1947 a small run of rotary lawn mowers (a NZ first).

Find answers to these questions, read on at <https://leanpub.com/pyeradiowaihi/read>

A separate history of TV development in New Zealand may be viewed at <https://nzhistory.govt.nz/culture/tv-history/emerges>

Pye was founded in the United Kingdom, in 1896 as a scientific instrument manufacturer by Mr William George Pye. Over the years, it grew to more than sixty different international businesses. A history can be found here <https://www.pye-story.org/home>

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Formation of the Waikato VHF Group from Presidents Report to 10th AGM at Matamata Motel on 20 May 1973

A meeting called on the 16th June 1963 at the Cambridge residence of ZL1RG, and attended by 10 VHF enthusiasts from around the area saw the beginning of this group. Those present moved that a VHF group to be called the "Waikato VHF Group" be formed to serve the area south of Auckland. ZL1RG was nominated as president, and ZL1ACL as secretary. Subs were set at 2/6^d, and the next meeting to be held 3 months later. Ten financial members drawn from an area of some 8000 square miles extending from Bombay in the north to Taupo in the south became foundation members of this new group.

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Anniversary Cakes

The Waikato VHF Group celebrated its 60th anniversary at our 26 March 2023 AGM in Te Aroha, for which Syd Rowe ZL1LWR provided a cake, which was decorated (iced) by Christine Cecil, our appreciation has been extended to both.

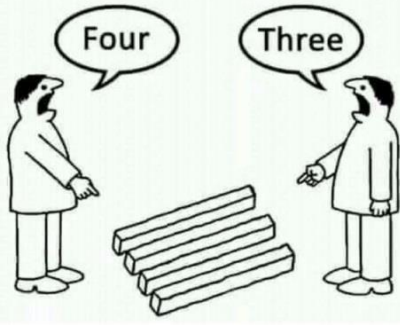
Earlier anniversaries were similarly celebrated with cake as our records from those meetings show:

"At our 10th AGM on 20th May 1973, Les ZL1TOP, as a surprise, supplied a decorated anniversary cake."

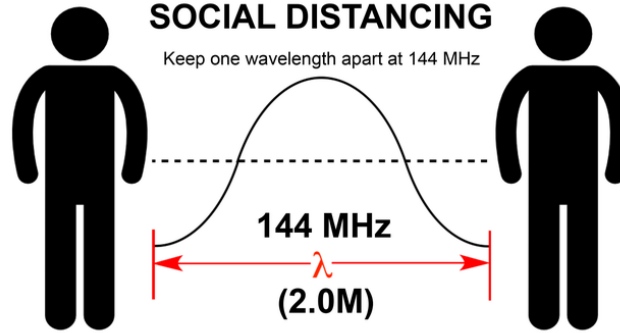
For our 50th AGM at Matamata on 24th March 2013, an iced anniversary cake produced by Doreen King (ZL1PK's XYL) featured a graphic of our Kaimai tower as included in the Historical Photos section of our web site at <https://www.zl1is.info/historical.html>

Photos of attendees at both our 50th and 60th anniversary AGMs also appear on that page.

which is correct ?



Amateur radio enthusiast guide to SOCIAL DISTANCING



Computer Help

Help Desk: "Super Duper computer store. Can I help you?"

Customer: "How do I turn my computer off?"

Help Desk: "Click on 'START'....."

(Author unknown)

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25 Microchips that changed the World:

IEEE Spectrum has founded a Hall of Fame for Chips - the integrated circuits without which we would still be back in age of steam, or perhaps vacuum tubes.

Article - 25 Microchips that shook the World:

<https://sudonull.com/post/18783-25-microchips-that-shook-the-world>

Includes:

- Fairchild Semiconductor μ A741 Op-Amp (1968)
- Signetics NE555 Timer (1971)
- MOS Technology 6502 Microprocessor (1975)
- Texas Instruments TMC0281 Speech Synthesizer (1978)
- Intel 8088 Microprocessor (1979)
- Motorola MC68000 Microprocessor (1979)
- Acorn Computers ARM1 Processor (1985)
- Kodak KAF-1300 Image Sensor (1986)
- Texas Instruments Digital Micromirror Device (1987), used in DLP projectors.

The New Zealand Amateur Radio Emergency Communications (AREC) kick into gear to respond to Cyclone Gabrielle.

Around New Zealand AREC volunteer members and other license Radio Amateurs geared up as Cyclone Gabrielle approach the coastline. Cyclone Gabrielle was expected to bring extreme winds and rainfall across the Auckland commencing Sunday 12 February. Winds in excess of 120 km/h to 130km/h are forecast with speeds up to or exceeding 150km/h in some areas. These wind speeds have the potential to cause damage to power and telecommunications infrastructure. Heavy prolonged rainfall we predicted to cause serious flooding across large parts of the North Island East Coast.



Figure 1 Alistair ZL1NEO operating at North Shore Comms Base

Auckland – Andrew Brill ZL1COP

After meetings with Auckland Emergency Management (AEM), AREC was asked to provide radio communication support across the entire Auckland Region for field teams comprising of a mix of NZ Response Teams, NZ Defence force personnel, and other volunteers.

AREC developed a detailed communication plan and personnel rosters to assist with the operation.

Radio Comms planned for the disastrous event consisted of of:

AREC volunteers roles who assisted with the following activities consisted of:

- AEM VHF network – 8 x channels (ESB Band) for CD coordination
- Commercial – 2x channels (1x EE band, 1x CN band)
- Amateur – 3x repeater channels (Auckland 670 2m repeater, Kohukohunui 875 STSP, ZL1BQ ZK DMR) for coordination and liaison between AREC members. (Due to an outage of an AEM repeater a crossband repeater using 70cm uplink from the comms base with an ESB band simplex downlink provided to the operational area).

Fourteen Civil Defence centres were established throughout the Auckland region and AREC maintained VHF contact with these centres; including local community response groups in the Rodney District and Waiheke Island together with various AEM and NZ Response Team resources.

AREC was based at the North Shore CDEM base (400 East Coast Road Sunnynook) and provided the link between the field teams throughout Auckland and the Incident Management Team located at the Auckland Emergency Coordination Centre in the Auckland CBD; reporting, and general situation reporting for the duration of the emergency.

- Communicators - talking on the radio

- Log keepers - recording messages, forwarding messages via email, data entry etc.
- People with SARTrack software experience
- People with computer skills including Excel, Microsoft Office, Email etc (AEM will be using these systems)
- Supporters/gophers - Handling phone calls, logistics, making coffee etc.



Figure 2 VHF Handheld radios loaned by AREC awaiting deployment to evacuation centres.

AREC operations and preparation were activated on Wednesday, 8th of February, where actions commenced on Sunday, the 12th of February, and continued through to Thursday, the 16th of February.

During this time, 18 amateurs supported the operation at the base. A total of 25 people on standby throughout the Auckland region to provide remote support if needed. A total of 337 Person/Hours were worked.

Our team identified additional radios were needed. AREC member Soren Low ZL1SKL sourced 60 VHF radios. He, along with Jim Smith ZL1TGS, spent 8 hours programming these radios onto CDEM channels, then loaning them to AEM.

A team on Waiheke Island led by Joe Bell ZL1PMY, were able to issue hand-held radios to the island communities and provide VHF coverage using their private commercial repeater, to maintain contact 24 hours a day for the duration of the operation.

Without this support Evacuation centres around Auckland would not have had any backup communications.

During the afternoon of Tuesday 14 February, we were requested to provide a portable repeater to provide on scene comms between rescue workers operating at Muriwai in the search for the missing volunteer fireman, as cell coverage was down.



Figure 3 Peter ZL2AK at manning radios at Napier Coastguard IMT

The ESB164 Inter agency liaison repeater was deployed by the North Shore Response team NZRT5. AREC conducted a coverage analysis to locate a suitable site to provide good coverage of the scene and also direct comms to the Sunnynook Base.

AREC volunteers also provided and programmed equipment to allow comms with Welfare teams who were operating rented UHF portable radios on a commercial repeater channel on the Auckland Skytower.

AREC was stood down at midday on Thursday 16 February with a few remaining on standby if needed.

The majority of communications handled up by our volunteers was routine SITREPS with no major issues, however the operation has confirmed the value of AREC and radio comms in disaster situations, and has underlined the need for comms knowledge and skills in the event of infrastructure failures.

SARTrack is proving to be a valuable tool for logging radio traffic, and our improvised link to ECC is working, as long as we retain internet connectivity.



Figure 4 Main Operating area North Shore Comms Base

Auckland ECC operations manager Josie Beswick passes on her thanks and congratulations for the outstanding service provided by AREC volunteers, and that is echoed by feedback from the Community groups and Civil Defence evacuation centres around the region, who were kept in touch when the power and phones were down and things looked gloomy.

Hawkes Bay – John Newson ZL2VAF

AREC and Civil Defence (CD) activated the ECC in Hastings which covers the wider Napier, Hastings' area and up through Wairoa, testing the CD radio network up the east coast and set up ready for Cyclone Gabrielle bearing down on them.

The severity of the cyclone caused significant damage including power outages, with the main high voltage substation flooded that fed the wider area.

The rivers rose so high that the bridges between Napier and Hastings became unpassable. This meant a number of AREC/CD communications volunteers were cut off and unable to attend to ECC.

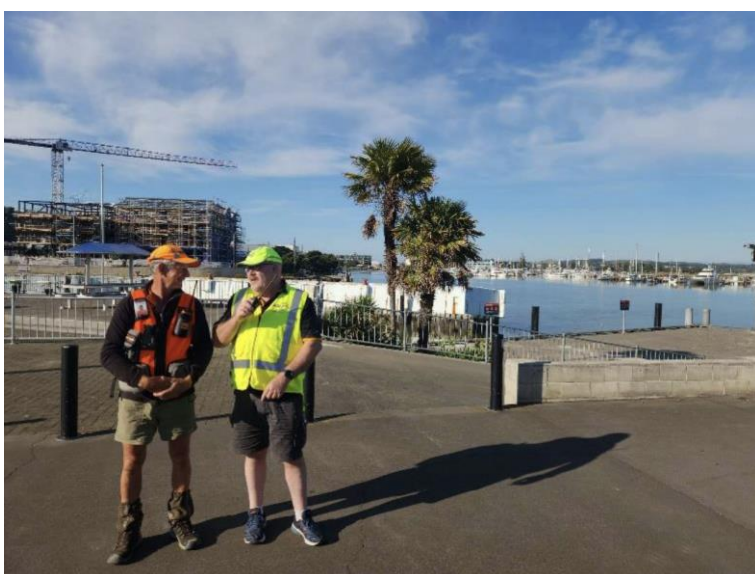


Figure 5 Gerry ZL2XL providing comms support for LandSAR searching beaches

In the first 48 hours, only 3 members continued to support the comms in 12 hour shifts with very little sleep. A mammoth effort by these three.

Most of the radio network stayed on the air other than an occasional outage due to power or internet outages which were rectified within a few hours. More details will be forth coming as the teams recover.

Te Tairawhiti – Gisborne Region – Mike Mather ZL2CC

Tairawhiti was hit really hard, with all communication going out for a lengthy period. Long before the last cyclone hit the North Island, a small group of radio amateurs (hams) set up emergency communications via “HF” radio to enable the passing of messages from Gisborne area to the outside world.

The hams in Gisborne area were Roger (ZL2RC), Tom (ZL2MOT) and Mike (ZL2CC) and the “out of town” station was Barry (ZL2BJA) in Palmerston North.

As soon as Cyclone Gabrielle hit over the night of Monday the 13th and 14th morning, the “net” (as they are called) sprung into action. They kept regular contact with Barry ZL2BJA for days and passed on several personal messages via the radio where Barry sent them off as emails to the various people who had requested such information.

As Mike ZL2CC is located in Te Karaka (where some of the worst flooding was and about 80% of the houses had water through them), many messages were sent from the local township, along with reports of damage road conditions etc. as it became known.



Figure 6 Gerry ZL2XL continuing Comms support for beach searches.

It wasn't long before poor Barry ZL2BJA was inundated with requests, as other hams from all over the country were asking him for information about family and friends in the Gisborne and Hawkes Bay areas. Luckily, he was joined by other licenced amateur radio operators

listening in and helping send emails etc, and in some cases actually visiting houses to perform welfare checks on their behalf.

Our team used HF radio and it was just as well as the internet was down, power was out and the cell phones dead. The local VHF and UHF repeaters are set up to be used into Bay of Plenty and Hawkes Bay which were hit hard and had their own communications problems as well.

Barry ZL2BJA and others did an excellent job and I know it would have been hard work taking messages and information, passing it on usually by email, and sometimes by any means possible. This is what the amateur radio community are trained to do, and always be ready to help out in an emergency such as this.

You may think we are geeks, but we can be useful and helpful geeks.

Bay of Plenty

Similar to Gisborne information is yet to come of Amateurs involvement.

Wellington

At the request of NEMA a large number of AREC members were placed on standby ready to travel to Hawkes Bay and Gisborne if required. They were stood down as communications were slowly re-established.

There are many more stories of the heroic efforts by AREC members and licensed Amateur radio operators and the details will come out in due course. My thanks go to all involved for providing this excellent service to the communities impacted by the cyclone.

Don Robertson ZL2TYR/ZK6EX
AREC CEO
ceo@arec.nz

SPONSORSHIP OF RADIO LICENCES 2023

Licences costing **\$50 each** are invoiced annually to the Waikato VHF Group Inc.

Would you like to assist by sponsoring one or more of our fourteen radio licences?

WaiPlenty Repeater Network

Te Uku

'5675 2m Repeater	145.675 MHz	2023 sponsorship available
Inter-site Link facing Te Weraiti	43x.xxx MHz	2023 sponsorship available
Inter-site Link facing Maungakawa	43x.xxx MHz	2023 sponsorship available
IRLP access Link facing Hamilton	43x.xxx MHz	2023 sponsorship available
IRLP access Link facing Te Uku	43x.xxx MHz	2023 sponsorship available

Te Weraiti

'695 2m Repeater	146.950 MHz	thankyou ZL1GWP
Inter-site Link facing Te Uku	43x.xxx MHz	thankyou ZL1TLQ
Inter-site Link facing Waihi North	43x.xxx MHz	2023 sponsorship available

Maungakawa

'5575 2m Repeater	145.575 MHz	thankyou ZL1AOX
Inter-site Link facing Te Uku	43x.xxx MHz	2023 sponsorship available

Waihi North

'5475 2m Repeater	145.475 MHz	thankyou ZL1KL
Inter-site Link facing Te Weraiti	43x.xxx MHz	2023 sponsorship available

ZL1VHW Beacons

Hamilton 2m	144.260 MHz	Off air
Kaimai (Takaurunga) 12cm	2400.260 MHz	2023 sponsorship available

Payment can be made online to the Waikato VHF Group, Westpac account, No. 03 1555 0091289-00 . When paying, please enter your name/callsign and what the payment is for.

Sponsorship of the Licence fee for any repeater, beacon or fixed link does not convey any right of Trusteeship, Ownership or Control of the equipment.

Your reward is having your callsign listed above, plus on our web site at <https://www.zl1is.info/sites.html>