AURORA
June 2025 Thanks to John Haylock taken on York Rd, just off Waitara

BRANCH 27 NEWSLETTER JUNE /JULY 2025

Hi Everyone,
So sorry to be so late in getting this out, but the past few weeks have been hectic with our moving to our new QTH.
Downsizing is a nightmare, especially trying to sort electronic and radio gear but we are almost completed.
Have our VHF Diamond X-50 aerial up and awaiting our HF which is an inverted L.

President's report

Hi to all

From previous Club night 20th May.
Remits below
After some discussion Remits one and two were unanimously and remit three was unanimously unsupported. I went down as club delegate.

At conference both remits one and two passed after a lot of discussion about an amendment on of one word (It did not change the intent of the remit, rather a better word to clarify a paragraph) of remit one. Remit three was withdrawn.


AGM Conference


Sunday Night dinner


Saturday night dinner

Other Items
The NZART model Constitution to meet Incorporated societies act 2022 that has to be in place by April 2026 was agreed by members present. This can now be implemented due to the Remit two being passed at conference last weekend. We either have to have a special general meeting or our general AGM in December and passed before it can be registered with Incorporated Societies.

There was discussion about the idea of replacing the UHF (8475) with the DMR repeater. A motion was put on the floor and this was passed. Thanks must go to Steven as he has supplied the repeater at his cost and also Jonno for the work with Steven in establishing the DMR repeater at Stevens QTH. The change will be done in due course. The Coax at the site needs to be swapped out at the same time as soon as there is a suitable spell of better weather.

Next Club night this month 17th June will be building Baluns etc, further information is in this news letter.

73, Terry Zl2TNB.

COMING BRANCH MEETING 17th JUNE Temo 7.30pm Topic : Building Baluns
We are offering a build project for a high power Balun in the order of 500W
These will be able to be built on the night and tested.
Also a 100W 1 to 1 Balun or alternatively a 100W 49:1 Unun suitable for end fed 1/2wave with counterpoise (Great for field operators POTA SOTA etc)
For the QRP'rs we will offer an up to 100W cheap Balun for under $10.00 See Next paragraph

A genuine Fair-Rite 43 mix Toroid will be available for just under $15.00. For QRO you will need 2.
For those that wish to build the QRP 1-1 or 49-1 we will be using Jaycar core Part # L1238.
Please order from Terry via Messenger, email (zl2tnb@gmail.com) or mobile 027-270-4216 ASAP or BEFORE Monday so these can be ordered Sunday evening. A bulk order is freight free.

The build night will commence with a brief talk on various Balun types

Lighthouse weekend Saturday 16th August starting at noon 48 hour event but if weather is bad we often pack up after 24 hours. Come out anytime and join us (meet at Bayly Rd) by boat club.

JUNK SALE
The junk sale is on Saturday 20th September at Mangorei Memorial Hall 732 Junction Rd Burgess Park.
We can have access on Friday night to set up. If anyone has booked a table they can bring their gear in after helping. Otherwise the Hall will be open around 7.30am for sellers, with no sales before 10am. $20 for a table prepaid, $25 cash on the day. BBQ, sandwiches and hot drinks available.

TARANAKI AWARD
The Taranaki award will run from Wednesday 24th to Sunday 28th September
We will hold our weekly VHF Branch net at 7pm on that week

HAM CRAM Coming up in November date to be confirmed

An elderly ham driver was going down the motorway when suddenly his 2 meter rig crackled his call…Answering…he heard a fellow ham's urgent warning….."Hey Jim, just heard on the news that there's a car going down I-35 the wrong way, please be careful"!!
Jim replied,"Well I declare, it's not just one…….there's hundreds of them'!!!!!!!!!

Phil ZL2RO Talk & visit (April 2025)
Phil travelled from Hastings for the talk, he is well known for his DMR activities.
He spoke to us about how to interconnect the various protocols and DMR radio
Graeme ZL2TE & Ngaire ZL2UJT hosted him for the night, and on the Wednesday morning Graeme took him up to the Branch 27 repeater site on Mangorei Rd to see the set up.
Phil was thrilled that we were shifting DMR to that site also.


Phil ZL2RO in front of repeater shed

Flin ZL2RL

I can't really say for certain when my interest in amateur radio started, I've always been interested in electronics and computers from a young age so I guess it just evolved from there, I got licensed in 2021 whilst studying for my diploma in IT Technical support at WITT, to take advantage of the student rates but didn't do too much aside from occasionally popping up on 720 whilst in New Plymouth as I was living in Opunake at the time and didn't have anything more than a HT and a small mobile dual bander that was connected to a small whip antenna and a 12V PSU.

After moving to New Plymouth for work and meeting some of the members of Branch 27 I decided to join and get more active again and have found a lot of new interests within amateur radio, the main ones being digital voice using DMR and various VoIP technologies such as Phil ZL2ROs NZSIP network, to which I have connected a grandstream ATA (analogue telephone adapter) with a 1980s Telecom landline connected, allowing me access to digital voice modes over a very analogue phone system

Outside of amateur radio, my interests mainly lie in older computer and gaming systems, and keeping my small collection of retro computers operational, and pushing them beyond what most people would believe them capable of in the modern world, in fact I wrote this using a 2002 model iMac G4, which is a recent acquisition from a local garage sale. Older systems such as these are my

preferred way to type up documents as they don't have all the constant notifications and distractions of modern always-connected operating systems, but are still new enough to be able to access networked systems if needed, and even browse the web in a very limited fashion.
Flin ZL2RL

When the Sun Strikes: *The Impact of Coronal Mass Ejections on Amateur Radio*

As amateur radio operators, we rely on the ionosphere for long-distance communications, bouncing signals off this upper layer of Earth's atmosphere. But the ionosphere is not always our friend—especially when it gets a sudden jolt from the Sun in the form of a **coronal mass ejection** (CME).

What Is a CME?

A **coronal mass ejection** is a massive burst of solar plasma and magnetic field ejected from the Sun's corona. These solar eruptions can hurl billions of tons of charged particles into space, often at speeds exceeding a million miles per hour. If one of these solar storms is aimed at Earth, it can reach us in 1–3 days and trigger a **geomagnetic storm**.

What Does a CME Do to Radio?

CMEs wreak havoc on radio communications through several mechanisms:

1. Ionospheric Disruption

The ionosphere becomes highly disturbed during a geomagnetic storm. Charged particles from the CME increase ionization in unpredictable ways, often **degrading or completely blacking out HF propagation**. You may find that your trusty 20-meter band suddenly goes silent or behaves erratically.

2. Increased Absorption

CME-driven storms can cause the **D-layer** of the ionosphere to become more absorptive, especially during daylight hours. This leads to **shortwave fade-outs**, making it difficult to hear or transmit over long distances, particularly on the lower HF bands (160m, 80m, 40m).

3. Auroral Activity

While beautiful, increased **aurora activity** can scatter radio waves unpredictably, sometimes offering unusual propagation paths on VHF and UHF, but generally disrupting HF communications. Enhanced aurora can cause **polar cap absorption events**, shutting down polar paths for transcontinental communication.

4. Magnetic Noise

CMEs can induce currents in Earth's magnetic field, increasing **QRN (natural noise)** across multiple bands. You might experience loud, static-like crashes that drown out weaker signals.

When Is the Risk Highest?

CME activity is tied to the **11-year solar cycle**. During solar maximum—like the period we're currently heading into—sunspots are more numerous, and the chance of solar flares and CMEs rises sharply. Keep an eye on space weather alerts from NOAA, NASA, and ham-friendly resources like **SpaceWeatherLive.com** or **QRZ.com's propagation reports**.

What Can Hams Do?

While we can't stop a CME, we can prepare:

- **Monitor space weather**: Tools like **WWV** (2.5, 5, 10, 15, and 20 MHz) offer hourly updates on solar and geomagnetic conditions.
- **Use lower frequencies during high absorption events**, and explore higher bands when MUF (maximum usable frequency) spikes after the storm passes.
- **Try digital modes** like FT8, which often perform better under marginal conditions.
- **Log unusual contacts**—auroral propagation and rare openings can still occur and be fun to chase.

Final Thoughts

Coronal mass ejections remind us that amateur radio is at the mercy of the cosmos. While they can disrupt our operating plans, they also highlight the dynamic nature of our hobby. Being aware of solar conditions and understanding the ionospheric effects can help you adapt and maybe even turn a solar storm into an opportunity.

Stay tuned, stay informed, and enjoy the challenge. After all, when the bands go wild, the real hams get to work!

Thought you might be interested in this with all the activitiy happening here these past few weeks

Ngaire Zl2UJT Thanks everyone, if you have anything to add to newsletter, give me a call.
