September 2025

# INTERFACE

**MONTHLY BULLETIN**
**MARLBOROUGH AMATEUR RADIO CLUB INC. P.O. BOX 432 BLENHEIM NZ**

## CLUB CALENDAR

**General Meeting;**..... 11 Sept, 7.30pm, EOC
**Social Group;** ..... 18 Sept, Dodson St Beer Garden
**Committee Meeting;** 25 Sept, 7.30pm, via Zoom

**VHF** Mondays 1930 hrs
146.950MHz,
145.600MHz, 147.225MHz
**Net Controller;**
Rob Carter, ZL2IW

**HF Net** Tuesdays
2030 hrs 3876kHz

**Website**
www.zl2ks.org.nz

## BRANCH 22 NOTICES

1. Constructors Award Night ..... 11 Sept
2. Pick-over night—bring cash! ..... 9 Oct
3. Fox Hunt (EOC room unavailable) ..... 13 Nov
4. AREC Presentation & Xmas catch-up..... 11 Dec

**Editor:** Caryl Simpson caryl.grant@gmail.com **MARC Contact:** marcbranch22@gmail.com


I hope you noticed the notice in last month's notice. Minutes are now sent directly to members from the secretary and the newsletter is solely for articles and items of interest. Some information is also emailed but still included here for the member who does not have a computer, or others who don't read their emails.

As a result of asking for content, I have had ONE item sent by the club president. Where are the rest of the articles, or profiles?


**Eastfest** will be held at Ashburton 18th October 2025.
A 1 day event at the Sinclair Centre, 74 Park St. Ashburton.
Car boot sale in the morning, programmes in the afternoon.

Whangarei ARC activities promotion – September 2025 & February 2026 (see P6 for details)

**24hr 100 contacts Challenge** to be held 1st Jan 2026

*Lighthouse Weekend*

*setting up aerials*

*More photos, thanks to Greg, ZLGBX, on P.5*

**FROM THE WORKBENCH, AUGUST 2025—JOHN ZL3TIL**

I have been experimenting with antennas recently. Herrie's article in Interface, and John Elvy's portable antenna have inspired me to put pen to paper and report some of these as small "bite size" items.

**Design Tools 1 (VHF/UHF)**

Herrie mentioned the tool I use for designing Yagis. This is the link for the tool https://3g-aerial.biz/en/online-calculations/antenna-calculations/dl6wu-yagi-uda-antenna-online-calculator , the Foxhunting antenna below comes from this site. I use another site for matching networks https://3g-aerial.biz/en/online-calculations/other-calculations/gamma-matching-calculator . Our RMS uses a matching network from here: https://dg7ybn.de/Phasing/Phasing.htm#28_to_50 .

**Design Tools 2 (HF)**

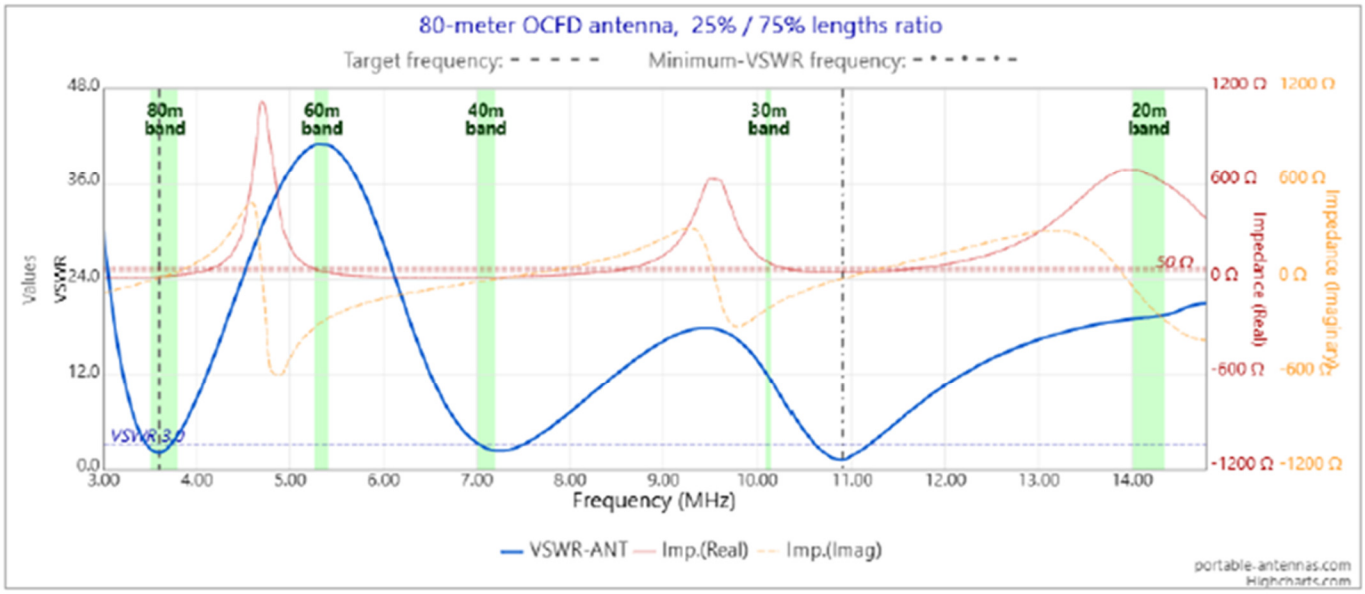
For some years I have used MMANA GAL. A great tool, but time consuming to use, especially when working on a multiband designs.

I was thrilled therefore to discover a quite new site, https://portable-antennas.com/ . This site is an online antenna modelling tool brought to you by the developer of SOTA Maps ( https://www.sotamaps.org/ ). The site uses NEC on the back end. You can model most "standard" antennas on this site. You may still need MMANA Gal or NEC for the tricky stuff.

The web designer is Rob Banfield DM1CM. He is very responsive. I was working on an antenna with Don and asked Rob to make a small change to accommodate the height of the tree that supports Don's antenna. On the first attempt Don's antenna broke the website – but Rob fixed the issue, and all is working now!

Here is the SWR calculated from 80M to 20M for an off centre fed dipole (OCFD) antenna.

**VSWR chart**




My go-to site for antenna matching networks is https://www.analog.com/en/resources/interactive-design-tools/rf-impedance-matching-calculator.html and for designing the coils I need I use https://coil32.net/online-calculators/one-layer-coil-calculator.html or Coil 64 from the same site.

Transmitter filter coils need to be high Q with a very low insertion loss. I use https://markimicrowave.com/technical-resources/tools/lc-filter-design-tool/ for designing these.

**Foxhunting antenna**

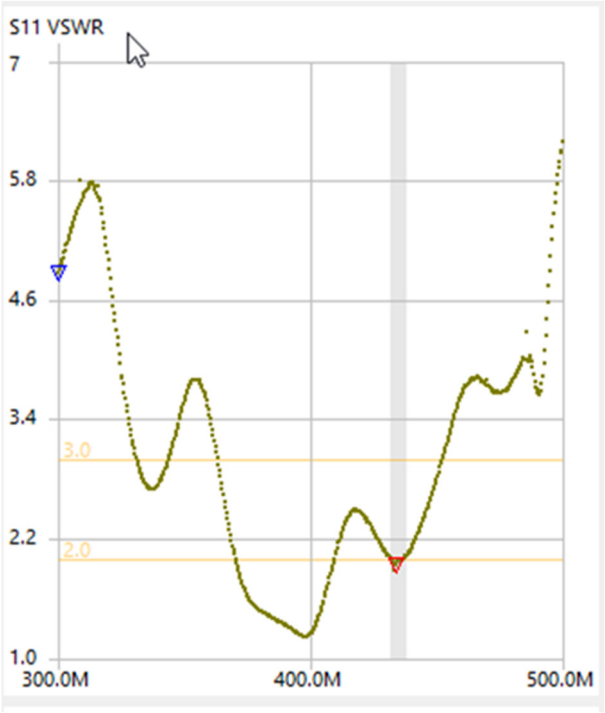
To see how cheaply I could make an antenna for foxhunting I decided to make a 70cm antenna from copper tape and plastic board.

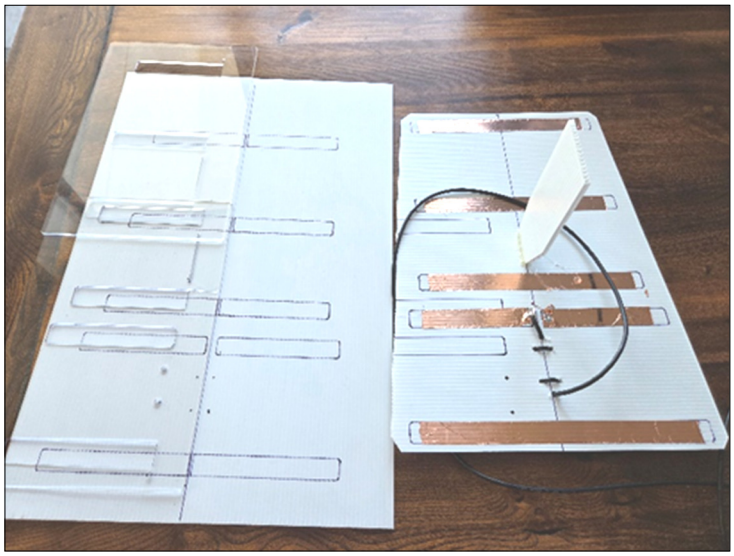
The July issue of Practical Wireless had a feature on making an antenna with cardboard and copper tape. I decided to make one using 1 inch copper tape and plastic signboard rather than cardboard because the signboard is waterproof – the copper tape comes from Bunnings at $4 a roll, or much cheaper from AliExpress. The board is from the Warehouse – it is the sort of board often used for real estate signs.

To set out the antenna I made a stencil. To make the antenna, trace the stencil and stick the tape – nothing could be easier.

The antenna worked well enough. I found that I had to shorten each element by about 15mm, probably because the design tool expects round or square conductors, not flat tape. I used a fixed matching network and added a ferrite bead to reduce radiation from the coax. Next time I might try a gamma match unit using another piece of cardboard and a bit more copper tape.

Here are the photographs and the VNA results



***VSWR = 1.9, IMPEDANCE = 56.7-J36.3 OHMS AT 432.5MHZ***

**Portable antenna**

John Elvy showed us a great way to make a portable antenna. I started off by wanting to make a stand alone base for this type of antenna. First of all, I made the antenna. I purchased the same telescopic whip that John used, and also a base and a loading coil. All from AliExpress for a total of about NZ$75.

The base comes with a spike that will hold the antenna in firm ground, but I wanted to mount it in sandy soil or on hard (concrete) surfaces, so off to Bunnings again. I purchased two umbrella bases for between 10 and 20 dollars. The antenna fits in either base with the aid of a 3D printed holder.

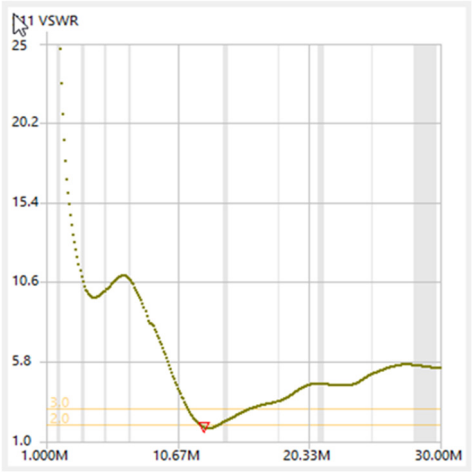
The antenna also came with a piece of ribbon cable that can be used as a counterpoise. If a vertical antenna is in the middle of a large ground plane the radiation pattern is symmetrical. If the ground plane is not symmetrical around the antenna, the radiation pattern “leans” towards the ground plane.

The ribbon cable can be separated and laid out around the antenna to form the counterpoise, however modelling the antenna tells me that laying out the counterpoise in the direction of transmission will increase the signal in that direction by as much as 3db. It will also increase the front to back ratio, useful if there is a local source of noise.

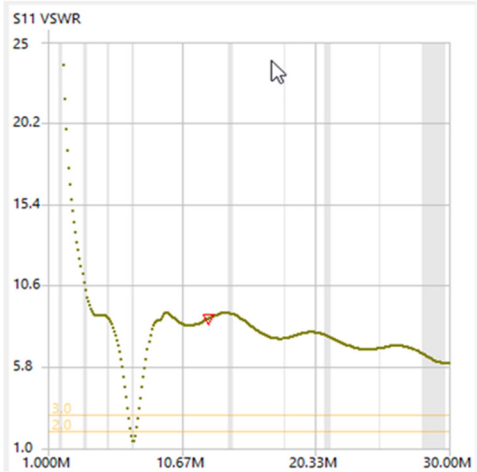
I also made a guy wire bracket for the whip – only needed if it is windy.

Right, and below, are the pictures and the VNA results. These VNA results are for the antenna at full extension. The loading coil is not needed if you have a good ATU and/or adjust the length of the whip. Using the loading coil makes the matching easier and makes listening across the band simpler.

Overall, this antenna works well. It is cost effective and really quick to set up. The linked antenna developed for the club “Summer Season” last year appears to have a 3 to 6 dB edge on this one – possibly a polarisation or radiation angle difference.




*All bands, no loading coil*
*40M with loading coil*




*All bands with loading coil*

# CONSTRUCTORS AWARD — 11th September

## CONSTRUCTORS AWARD RULES

You must have made your construction yourself. It can be anything you like, either from scratch or from a kit.

Most construct something amateur radio related but we also get a few electronic devices or computer related constructs. We've even had sculptures made from electronic/radio parts!
If you are unsure, contact a committee member and ask.

On the night, everyone brings their entries which are lined up on a table. After the meeting, each entrant is asked to briefly describe their entry. The judges (sucked into it on the night and, as a result, are open to bribery - choccy biscuits might work) then judge the entries while everyone else enjoys a cuppa.

The winner is then announced and presented with the trophy (pictured right), which they get to keep proudly on prominent display in their home, or radio shack, until next year.

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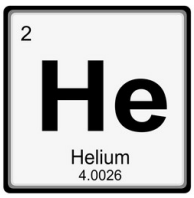
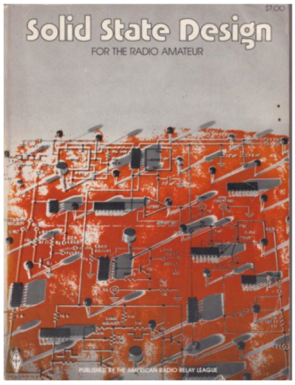
*Today at the cemetery, I saw 4 men carrying a coffin… just walking round and round in circles.*
*Three hours later, they were STILL at it with the same coffin.*
*That's when I thought to myself… they've definitely lost the plot!*

| TECHNICAL TERMS IT PAYS TO KNOW | |
|---|---|
| *PERCUSSIVE MAINTENANCE* | *I hit it and it started working* |
| *CYCLE POWER TO THE PANEL* | *Turn it off and on again* |
| *HIGH IMPEDANCE AIR-GAP* | *I forgot to plug it in* |
| *ORGANIC GROUNDING* | *I got electrocuted* |
| *THERMALLY RECONFIGURED* | *It melted* |
| *KINETIC DISASSEMBLY* | *It blew up* |
| *THERMAL SHOCK* | *It burned* |




Scientists recorded the sound of two helium atoms laughing. HeHe.

I was perusing Branch 26's CQ newsletter (mainly for the jokes) and saw a picture of a familiar book cover. One of their members, Eric ZL2BMI, was asking if anyone had a copy of this book as he wanted to buy one. Hmmm, thought I, I recognise that book, there is a copy here - somewhere. After a rummage I found it, so emailed Eric to offer it to him. He was very pleased and arranged for a friend to collect it on his behalf. About a week later, I got the following email from Eric...




*"Well, Richard has just delivered the book to me - and now it is more special than ever! What I didn't know is that before Grant had it, Roger Lawson's name is there, so I guess it was his previously.*
*Now Roger, ZL2BHG, lived in the Opouri Valley when I was at Havelock for the first time in the late 70s and early 80s. I contacted him on the old 26mhz CB, which he used on his farm. He kept on at me to do my amateur radio licence - and eventually I did. So he was actually the person who got me into amateur radio.*
*Now I did already have another copy of this book, but I wanted another to give to someone else who needs one. So I will be keeping and treasuring this one from Grant, and I can give the other one away."*

So that's two Hams who, from the grave (or tube in Grant's case), have helped two current Hams further their hobby. So good to know it has gone to someone who has a further connection to it. I had seen Roger's name inside the front cover, as well as Grant's, but didn't think to mention it to Eric when I said I had the book. I know it has been here for many years, as I recognised it, but have no idea when Roger gave it to Grant.

*As you all probably know, Stuart ZL2TW, has been invaluable helping me sort through all Grant's ~~hoarding~~ treasures in both garages and our computer room. It has been a long, and sometimes frustrating, process (it is almost a year since Grant died!) but we are making progress, and a lot of money for my roof replacement fund. Eventually there will be a club pick-over day here one weekend for members to go through boxes of stuff with the opportunity to make an offer. Some of you have been buying the gear Stuart listed on TradeMe.*

*The problem has been the lack of space to be able to spread goods out to sort through the boxes to see what is in them. There are boxes stacked on and behind boxes on deep shelves reaching from floor to ceiling but, thanks to Adam ZLAXK, the rafters are now empty of valve radios and test equipment, although there are still a lot of aerials/ antennas/masts/poles up there. Anyone wanting them will have to get them down themselves, ladders will be available.*

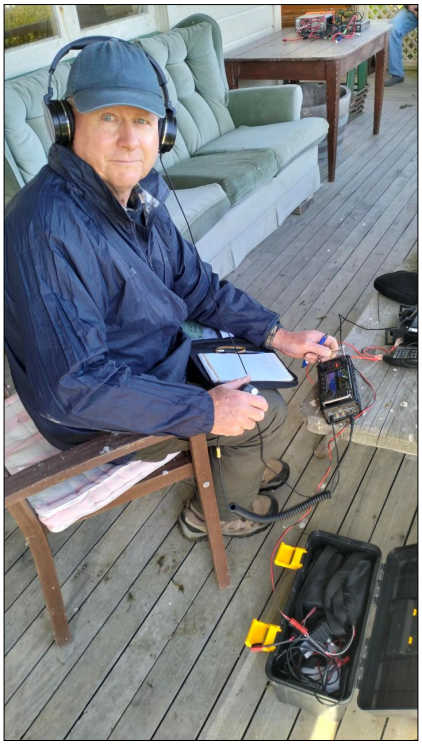
*There are a number of drums of cables of various sorts, some unused and still wrapped in the original packaging, plus quite a few heavy duty tie-downs and towing paraphernalia. There will also be a lot of computer stuff, of course, not just amateur radio gear. Hopefully it won't be long before we can advertise a date, day and time for this but we are currently having a well-earned break for the rest of September. Stay tuned!*

*Hmmm, I wonder if I can get Stuart to write an article on some of the more 'interesting' finds?*

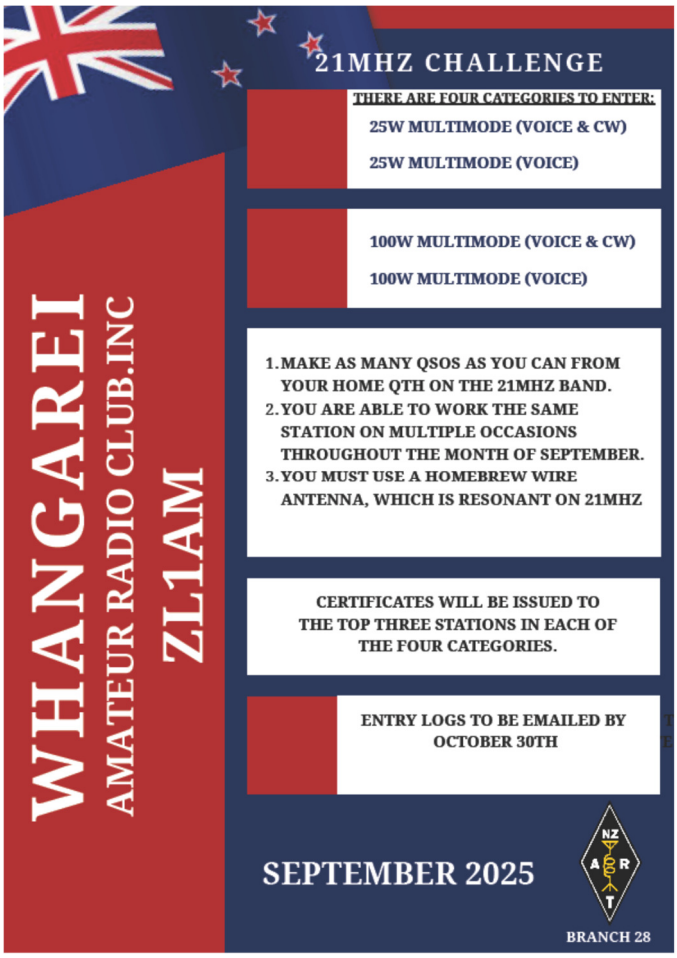
## LIGHTHOUSE WEEKEND

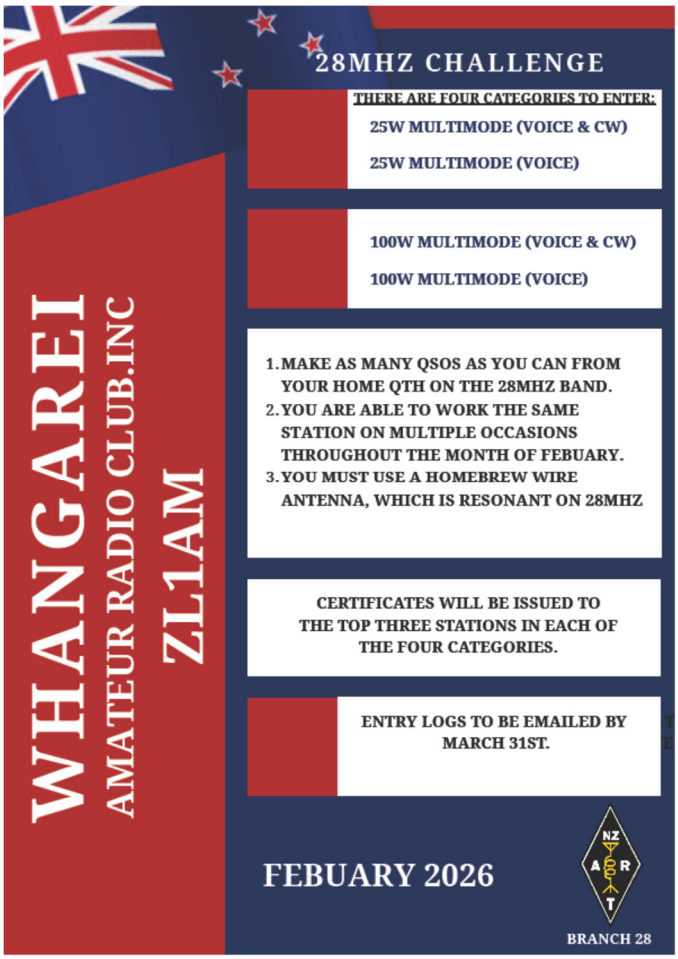
I was hoping for a report from the weekend but it seems I am out of luck, so here's what I did get — some photos and explanations from Greg, ZL2GBX, who wasn't even an official attendee! He was staying at Marfells Beach so walked around to help with the set-up, a couple of inverted V's on the lawn for HF and VHF/UHF on a mast from the deck.

Attendees were Stuart ZL2TW, Nick ZL2NEB, Graeme ZL1BDS, Gary ZL1GA, and Linc ZL2CLT.



Linc braved the wind on the lighthouse base to check out his PRS yagi with some good results.




146 Simplex NZ is a New Zealand-based Amateur Radio event focused on using the 2-meter band (146 MHz) FM **simplex**. The event encourages participation by Branch, each with a designated net controller who facilitates communication on specific frequencies.

There are no strict contest rules, but participants are encouraged to make as many contacts as possible within the designated time frame, often spanning several hours.

- Key Rules and Guidelines:
- Band and Mode: 2-meter band (146 MHz) FM simplex.
- Purpose: To promote the use of 2m FM simplex and encourage contacts between Amateur Radio operators.
- Regional Nets: Are divided into Branch Regions, each with a net controller.
- Frequency Coordination: Nets are coordinated to minimize interference between different regions.
- No Contest Rules: The event is relaxed and not a contest with strict rules.
- Participation: Anyone with a 2-meter capable radio can participate. Even if its years old..
- Net Controllers: Volunteers coordinate nets in different Branches, encouraging contacts and identifying participants.
- Location: Participants may choose to operate from home, portable locations, or even summits for increased range.
- Logs: Net controllers may request logs (often in ADIF format) from participants after the event.
- Frequency Lists: Frequency lists for each region are usually published before the event.
- Updates: Stay informed about the event through relevant websites, Facebook groups, or other online forums. (TBA)


146 Simplex NZ is an activity event to promote the use of 2m FM simplex.

Based upon the UK Alive Concept

Branch nets are established across NZ on a chosen day over a period of several hours and anyone is welcome to call in and get as many contacts as possible

**Just get on the air!**

21MHz Challenge, starts 1st September, 28MHz Challenge 1 February and 146MHz FM Simplex Activity on 1st Sunday of month, starting October, 1pm - 4pm . A 146MHz Simplex facebook group has been created to share Sked info. https://www.facebook.com/groups/2432356643727494 9