



Bell Block Beach.

## BRANCH 27 NEWSLETTER Jan/Feb 2025

*Happy New Year to everyone and I really hope it will be a great 2025.*

Our AGM in December was a great meeting with a record turnout of members, and lovely to have Dave ZL2TLF from Branch 87 attend . Also AREC Regional manager Simon Osborne attended and spoke on AREC, and presented awards to Jill ZL2DBO & Bruce ZL3BN. Show & Tell was very popular and groups developed around different projects. Finished off by a Yummy supper.

### **Branch 27 Executive Committee 2025**

President Terry ZL2TNB

Vice President Trev ZL2WJ

Secretary Doug ZL2DUG

Treasurer Francios ZL1CZZ

#### **Committee**

James ZL2ET

Ross ZL2RPW

Ken ZL2KJT

Steven ZL2KJB

Brett ZL2VZ

Ngaire ZL2UJT

Graeme ZL2TE

Flin ZL2RL

**Committee Meeting 21<sup>st</sup> January 7.30pm (note this time)**  
**at Graeme & Ngaire's QTH 3 Amy way Bell Block 0272487844**  
**(No Branch meeting this night)**

**February branch meeting 18<sup>th</sup> February 2025 7.30pm at TEMO**  
**Flin ZL2RL will be giving us a talk on "MESHTASTIC" This is an open-source project that uses LoRa radios to enable long range off-grid communication**

## **President's Note Terry ZL2TNB**

Only a short note from me this time. I trust that everyone has a great Christmas and new year with family and friends.

I am working on the Fox Hunt and will be sending out details as the time gets closer. There will be a map to go with instructions but in the mean time it may pay to brush up your map to compass skills if you are going to use this method for fox hunting.

The map will be a Topo50 map and will be in PDF of the area. I will print a few if needed.

I have a beacon operation at my QTH on 144.700 Mhz so that you can use to set up your DF gear. It may be turned off from time to time if I am using the antenna on my other radio.

Any questions and/or help, contact me, if I can't answer them you will be pointed in the direction of someone else that may be able to.

**Terry ZL2TNB**

## **Jock White FIELD DAY 2025 Onaero**

**Jock White Field Day 2025 runs from 3pm Saturday 22nd to 3pm Sunday 23rd February. We will operate from the Onaero Bay Holiday Park again. According to the rules, we can erect antennas and tents on the day, so if we could get a good turnout at 12pm Saturday for setting up that would be great.**

**For people unaware of how this event works, here is a brief overview.**

- Two radios will be set up - each in its own tent. One on 80 metre band, the other on 40 metre band.
- Stations from other branches, or home stations, can be contacted once per hour by voice on SSB, and a second time by Morse Code(CW).
- Logs are kept with a new page for each operator change. A consecutive serial number is allocated for each contact. The exchange we will give will look like **59 xxx 27**, where 59 is the signal report, xxx is the serial number, and 27 is our branch number. The other station will write this on their log and give you their numbers. e.g **59 123 55**. In this case, we would be the 123rd contact made by Waitomo Branch 55.
- You don't have to stay for the whole event, or even for the night. The club will pay for those staying. One person can sleep in each of the radio tents, and other arrangements can be made for others who wish to stay over. Please let Doug know at [<zl3dug@gmail.com>](mailto:zl3dug@gmail.com)
- The club also will contribute food. **It is advisable to bring your own plates, cutlery, mugs, etc. If you wish to contribute some biscuits, salads etc** that would be appreciated. Last year we even got given some fresh fish.
- **Bring something to sit on.**
- This is one of the main events in the NZART calendar. Please consider participating in our club effort.

**Fox Hunt & BBQ Saturday 25<sup>th</sup> January 2025** Bring a plate with a salad or similar and any meat to cook on BBQ (More information coming on this)

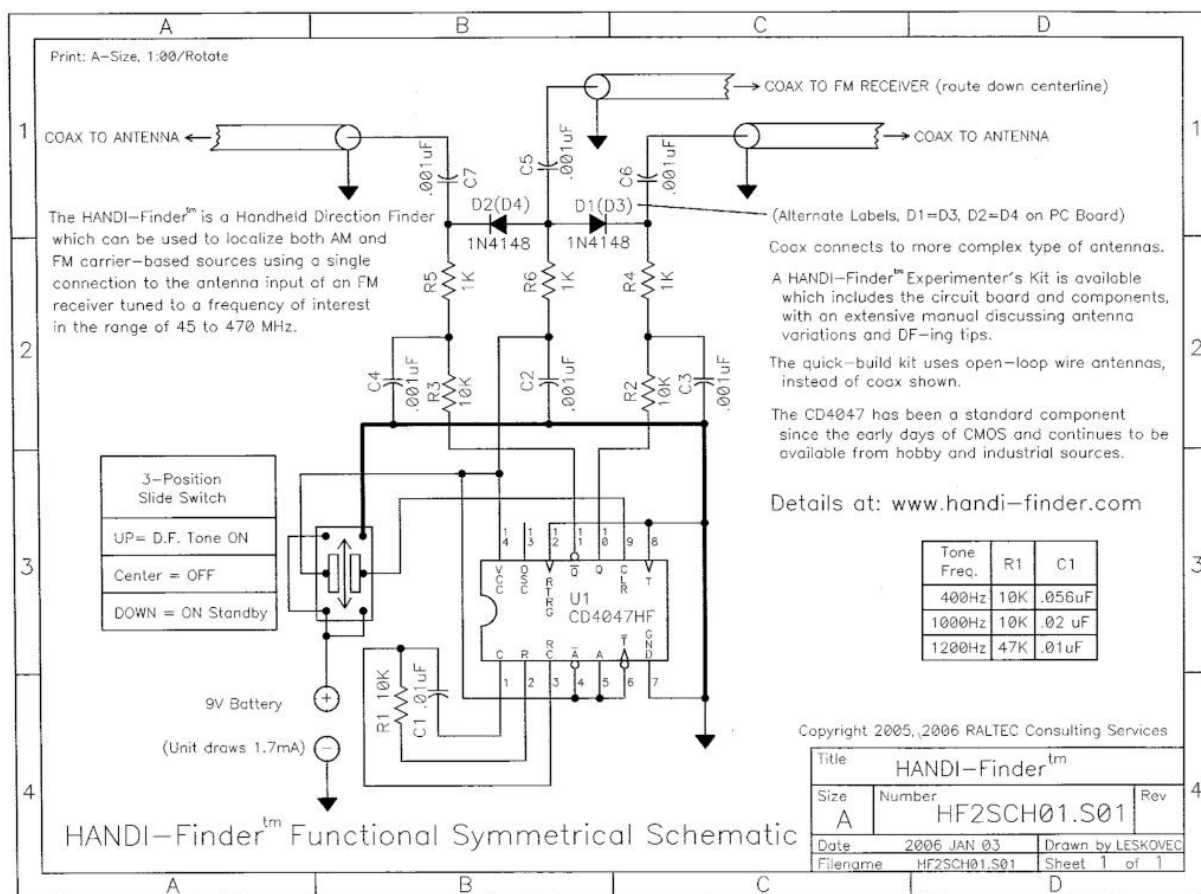
**RSVP to Terry [zl2tnb@gmail.com](mailto:zl2tnb@gmail.com) by 21<sup>st</sup> January 2025 so he can email information on the FOX HUNT out to you**

# The Handi-Finder ZL2TE Style

This DF system works well and is just the tool for our upcoming club fox hunt.

The handi-finder described here is based on an article by Bob Leskovic K8DTS. You can find his original article from the following link [Handi-Finder](#) and it is completely non critical to build with my veroboard layout proving the point. The only careful detail needed is to get the coax to each antenna exactly the same length. I chose to use full 1/2 wave dipoles for the sense antennas as they have better pickup for looking for a weak long range initial bearing. Beam antennas will be better in this regard but I found a 4 element beam didn't offer much advantage. This article will describe the mechanical construction of the DF antenna and its operation but the circuitry will only describe the circuit diagram and its operation. The component layout will be left to the builder.

## The circuit:

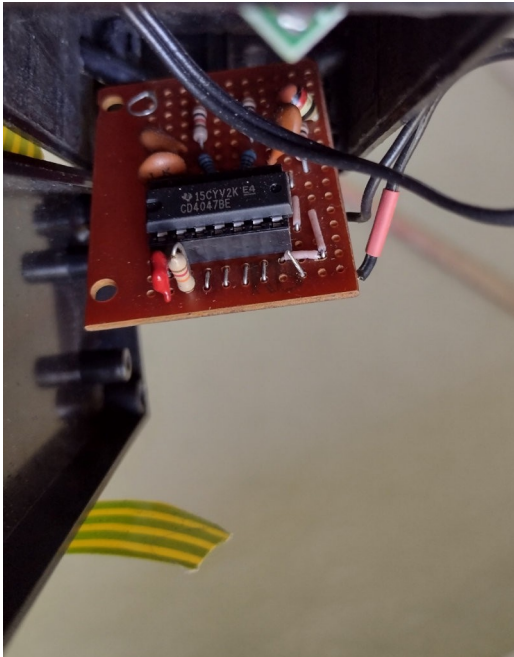


Referring to the circuit above, the diodes D1 and D2 form a switch to connect each antenna alternately to the radio at a rate of about 1000 switches per second. The switching voltage is generated by the CD4047 configured to run as an oscillator with 2 square wave outputs running 180 degrees out of phase so when one is on the other is off. Ordinary 1N4148 diodes are just great for the job and PIN or schottky diodes are completely unnecessary.

A 9 volt power supply is needed to run the system and being a ham I didn't like the idea of forking out for 216 batteries and built a little power supply to convert 3 volts to 9 volts and thus can operate with 2 AA batteries. Not necessary to do this as the 216's last quite a while but you know hams!

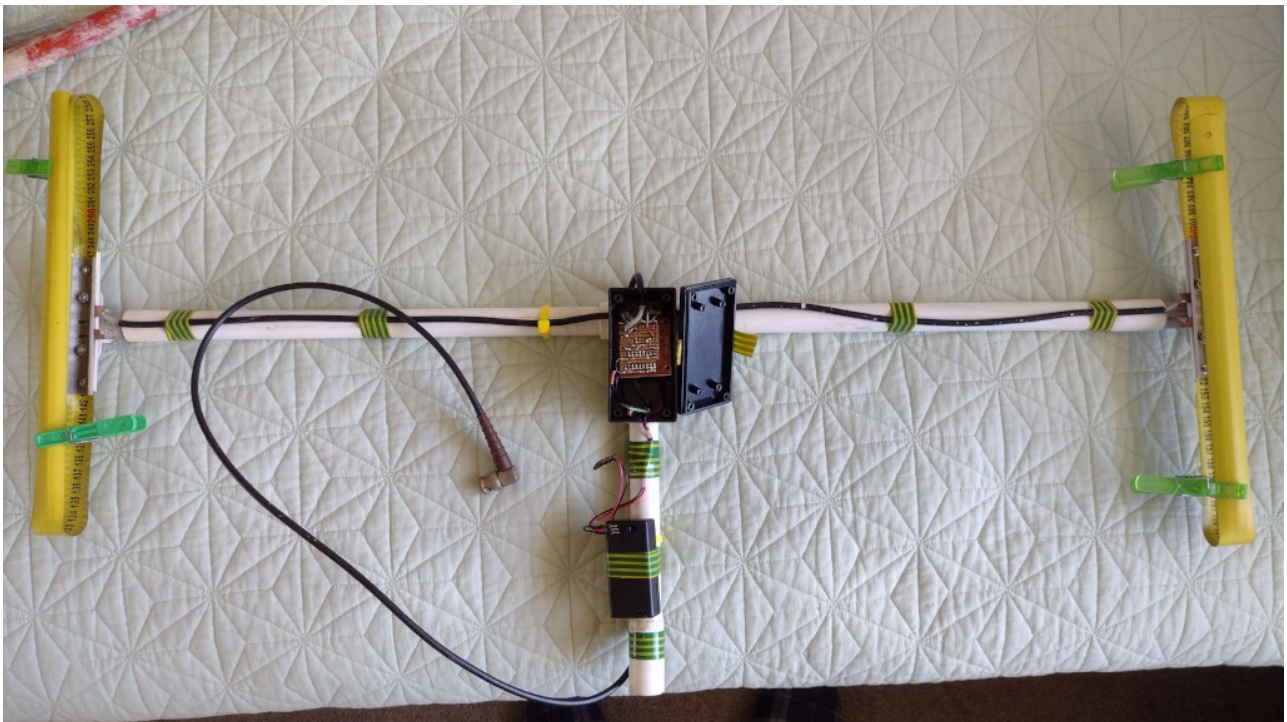
## The Mechanical Layout:

### *The circuit board.*



As mentioned, the board is constructed on a small piece of veroboard as shown in the photo alongside. The reverse side of the board has the switching diodes soldered on along with the coax connections to the antenna. Keep this part of the construction as symmetrical as possible as it is the difference in delay from the two antennas that give the unit its directivity. The little green PCB corner showing in the top centre of the photo is the 3 volt to 9 volt converter board which came via Ali Express for about \$3.00 and amazingly they were RF quiet. The two boards are floating on their connecting leads inside their little jiffy box and are quite firm as the coax is relatively stiff. The whole thing was constructed in one evening. The battery box is a small 2 AA cell container and is connected to the main circuit box with a 3 pin header arranged with +ve on the centre pin and -ve on the two outside pins – no reversal here.

### *The Antenna Construction*



Shown above is the construction of the complete antenna. The frame was constructed of 20mm PVC pipe available from Bunnings for about \$6 for a 5M length. A Tee fitting was used in the centre and the horizontal arms are cut to place the two dipoles 1/2 wavelength apart (1 Metre) and the vertical arm has the end expanded with a heat gun so it will slip over a length of 19mm dowel to make a support pole. The antennas are made from an old tape measure which makes it very convenient to fold up and clip into place with clothes pegs for transport as it would be pretty difficult to transport a pair of fully extended dipoles. The dowel just shows in the TLHS.

The circuit board and Battery box are held onto the vertical PVC arm with insulation tape and with the lid of the circuit box open you can just make out the copper side of the vero board (the diodes side) with the connection of the 3 coaxial cables. One to each antenna and the other to my handheld. The coax is soldered to the two halves of the dipoles with the braid to the bottom half and the centre to the top half. The tape measure takes solder readily so no problem there.

### ***The dipole construction.***



The dipoles are made from 2 lengths 480 mm each of old tape measure spaced 5 mm at the centre. As can be seen on the left hand picture above I soldered a little tab of copper to the end of the tape dipole to make a connection to the coax. Ordinary tin can would have done just as well.

The dipoles are fixed in place by splitting a 100 mm length of 20 mm PVC pipe and sandwiching the tape measure dipole halves with a 10 mm spacing and pop riveting together. They were held to the boom by bolting a saddle that slipped over the boom which further stabilized the dipoles and to avoid them slipping around the boom I locked them with a pop rivet as shown in the right hand side photograph.

### ***Deploying the DF Antenna***



Shown alongside is the antenna ready to use with my Baofeng handheld connected. A word of warning, don't transmit into the antenna. I have done it accidentally a couple of times and it has survived OK for me but no guarantees. The antenna is bi-directional and operates broadside i.e. if I was rotated to the null I would be looking at the signal or it would be directly behind me. From this you can see that initially 2 measurements are need to see which direction the signal is and normally I would go 100 metres or more to one side and measure again to see where the lines to the fox cross. If you are working as a team, each party would take a measurement and radio their bearing to the other and plot their results on a map, head to the crossover point and repeat the measurements. It still works pretty well when you are close to the fox 10 ~ 20 metres. So what can go wrong? Well reflections are a problem and 2 metre band signals bounce off hills and buildings and can put you out up to 30 deg. In a building walls etc. Make it very difficult to get a fix but in straight line of sight accuracy of 1 ~ 2 deg is normal. If enough enthusiasm is shown perhaps a club project with PCB?

### ***Conclusion***

This antenna will take a full weekend to construct and will enable you to participate in the club fox hunts with a great chance of finding the fox. Get together with a couple of enthusiastic mates and build 2 or 3 of them. There is a modification to remove the bi-directional limitation so there is room for improvement. Have a look at <http://www.homingin.com/hfinderfix.html>

## CONGRATULATIONS



Group Leader Bruce Bellini (image above, left)  
AREC Group: New Plymouth  
Years of Service: 49 years  
Award: AREC Long Service Medal and Bar

Communicator Jill O'Donnell (image above, right)  
AREC Group: New Plymouth  
Years of Service: 39 years  
Award: AREC Long Service Medal and Bar

### **Amateur Radio Emergency Communications (AREC) members were honoured for their dedicated service in the Taranaki.**

The dedication and commitment of two Amateur Radio Emergency Communications (AREC) volunteers from across the Taranaki District were recognised on Tuesday, 17 December at a special ceremony during the AGM of the New Plymouth Amateur Radio Club ) at the Taranaki Emergency Management Headquarters at 45 Robe Street, New Plymouth.

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The dedication and commitment of two Amateur Radio Emergency Communications (AREC) volunteers from across the Taranaki District were recognised on Tuesday, 17 December at a special ceremony during the AGM of the New Plymouth Amateur Radio Club ) at the Taranaki AREC Media Release - AREC New Plymouth celebrates 88 years of service.

AREC Regional Manager Simon Osborne was joined by AREC Group Leader Dave Sergent, Branch 27 President Terry Baldwin, NZART President Daniel Vandenberg, members of the New Plymouth Amateur Radio Club, Whanau, and special guests for the presentation of two Long Service Medals.

Group Leader Bruce Bellini and Communicator Jill O'Donnell from New Plymouth AREC were presented with the 25-year Long Service Medal and Bars with a combined total of 88 years of service, by AREC Regional Manager Simon Osborne on behalf of AREC's CEO Don Robertson with assistance from Group Leader of AREC Taranaki, Dave Sergent. "With a combined length of service of 88 years, these two volunteers have dedicated a significant portion of their life in the Servicer of others and deserve our gratitude," AREC Regional Manager Osborne said.

"A well-respected member of New Plymouth AREC and local Police Search and Rescue community, Bruce Bellini was recognised for 49 years' service receiving the Long Service Medal and Clasp. This includes holding the positions of Technical Advisor, Repeater Technician, Response Leader, Group Leader, and District Manager. Bruce started his journey in Amateur Radio as a teenager. He plays an active role in New Plymouth AREC, Taranaki Land Search and Rescue and Taranaki Civil Defence Emergency Management and is a great mentor to those alongside him."

"Jill O'Donnell has been a valued member of New Plymouth AREC and the local Search, Rescue and Emergency Management (SAREM) community. Jill was recognised for 39 years' service receiving the Long Service Medal and Clasp. This includes holding roles of Deputy Group Leader, Radio and SARTrack Operator and Camp Mother. Her contribution to countless AREC, SAR and Civil Defence activities, and community events is a testament to her enduring spirit of service and is greatly appreciated by her fellow members."

"AREC Regional Manager Osborne said it is important to recognise the hard work and incredible contribution of all AREC volunteers, particularly those who have dedicated decades of service. Their professionalism does not go unnoticed and while they do not do the work for praise, their commitment and service should be acknowledged."

"With its proud history and unwavering dedication, AREC Taranaki remains a vital part of the Police Search and Rescue network, continuing to evolve while staying true to its roots," he said.

"We also extend our heartfelt thanks to the families, friends, employers, and colleagues who support these volunteers. Their encouragement and understanding play a critical role in enabling the AREC to continue their vital work supporting the New Zealand Police in searching for the missing, lost and injured across the motu."

For more information contact AREC Regional Manager Simon Osborne at +64 27 206 6705 or [RMCent@arec.nz](mailto:RMCent@arec.nz)

## Profile Bruce ZL3BN

As a child I grew up on a farm "Up the Mamaku's" as my mother would tell her friends, about half way between Ngongotaha and Tarukenga. When I was seven or eight years old we had a "Ham", Tom Danks ZL1PY, come and stay with us for some months. During this time he and my father erected a "V Beam Antenna" using number 8 fencing wire, across a gully in front of the house and "Uncle Tom" set up his radio gear. I was fascinated listening to him talking on his radio to friends around New Zealand and far across the sea in the United States of America. One day he arrived home with a box full of radio components, which he gave to me and encouraged me to make "Radios", using a cardboard box as a chassis. Thus my Radio Gene had been positively switched on!

I was encouraged by the Radio Technician at the local Radio and TV shop, where I worked during the school holidays. I was attending the monthly meetings of the Rotorua Branch of NZART and was taken in hand by two members, Bill Palmer and Earl Eagle, who encouraged me to attend "Field Days" and thus became involved with A.R.E.C. I recall taking part in searches for lost persons in the Kaiangaroa forests, but my most vivid recollection is a search at one of the lakes south of Rotorua. I was sent by a boat to the far side of the lake with a V.H.F. radio and it was my job to radio the base and advise when a search team entered the bush or when a team returned. I set up the radio and antenna in the long grass and shrubs on the side of the lake and radioed the base as search teams came and went. The search seemed to go on all day. The r/t was a valve set and as the day wore on, I was aware that the vibrator was becoming slower and slower. Being a school boy I did not have enough experience to know at what point the battery would no longer drive the vibrator and the radio set would stop working. I recall becoming increasingly concerned, imagining that I may be left on the far side of the lake without communication! It must have worked out fine as I do not remember the traumatic end I was fearing!

Simon Congratulating Bruce ZI3BN



At the end of my sixth form year I was recruited by the Post Office, and as I already knew the morse code, I was enrolled at the Post Office Radio School, in the old Trentham Army Camp. Here we learnt to send and receive morse to 25 words per minute, touch type at 50 words per minute on a teleprinter keyboard, which were more difficult to use than a typewriter, and had classes in basic electrical and radio theory. Depending on how well we did in these topics, upon graduation we were either posted to work in a telegraph office, one of the Post Office Coast Stations or a Radio Inspectors, as in my case at Napier. I had also passed my Amateur Radio exam and had the callsign ZL2BHB assigned for my use.

For the next three years I did on the job training at Napier and attended a nine week course at the Auckland Technical Institute each year. At the end I had passed my Radio Technicians Certificate, 1<sup>st</sup> class Radiotelegraph Operators Certificate and Limited Electricians Registration.

During this time I had purchased an Yaesu FT101, erected an antenna at my flat, and was active on ham bands. I can still remember how busy 80 metres was in the evenings and how sometimes you had to wait for a spot to be vacated before you could get on!

It was now time for my "Great OE" and a couple of friends and I set off for Sydney where I got a job as a bus driver for the best part of a year before setting off for the U.K. For the following year I worked in a lovely little English pub as a barman then bar manager before hitch-hiking around Europe with a backpack and sleeping bag. Safe to do in the 1970's, but I would not do that now days. On my return I visited Napier to catch up with some old friends and decided to visit the Radio Inspector's Office, where my old boss said "Do you want your job back?" Yes was the reply and I began work the following week. Within a year of returning from overseas I applied for a vacancy in Post Office Headquarters Radio Section, as some of my friends had moved down to Wellington and I thought it would be good to join them. For the remainder of the 1970's I worked at Radio Section and had some very interesting jobs. People Politics required a very quick learning curve! One of the more interesting jobs was when I was seconded to a Parliamentary Technical Sub Committee to advise the then Government on the technical requirements for introducing FM broadcasting to New Zealand. An article describing that secondment was published in the November/December 2023 issue of Break In.

Late in the 1970's I met a young lady from New Plymouth who was visiting Wellington. We formed a bond that has lasted all these years. In the early 1980's we decided to move up to New Plymouth to bring up our children. During the 1980's and 90's we got to know the chemist at Fitzroy, Mr Roy Symons, ZL2KH who pestered me to become active with the local Branch and finally succeeded by giving me a challenge to link the Taranaki Land Search and Rescue fixed repeaters around the mountain. I got to know Roy well as we travelled around Taranaki doing field-strength measurements and gathering data so we could design a linking system. Unfortunately he passed away before the project was completed.

As many of you may already be aware, I am more interested in the technical side of radio, constructing etc., rather than operating on the air. I am interested in history and have a collection of about 50 vintage amateur and commercial receivers and transceivers. I also have a collection of vintage computers, mainly covering the period prior to the IBM PC, when we used to construct our own computers such as the Altair 8800, Cosmac Elf and Electronics Australia Dream 6800.

Bruce Bellini.  
ZL3BN

## PROFILE JILL ZL2DBO

Simon presenting Medal  
to Jill ZL2DBO



My name is Jill O'Donnell ZL2DBO, I have been married to Aleister ZL2BZN for 55 years. We have two adult children, Lee-ann ZL2TLO and David and Grandson George who is 15 years old. My OM Aleister first became interested in amateur radio and I didn't want anything to do with it, I even told him that 'he need not bring one of those radios into the house', but once he started learning morse code I became very interested and you guessed it Aleister was allowed to bring radios into the house and we gained our amateur radio licenses in March 1989. Following this I also passed 12 wpm morse to gain my full callsign.

We joined branch 27 and I became a committee member soon after and was Newsletter Editor and Secretary for some years. I volunteered to assist with Civil Defence and Search and Rescue which I still do from time to time but over the years as technology has progressed our input is not called on as much. I was AREC group leader for 20 years but family illnesses forced me to step back, I am still part of the team and will still be assisting in the background.

There have been many search and rescue operations that I will always remember the longest lasting 2 weeks. Many times, the phone would ring during the night or when we were just about to have dinner.

I was a volunteer for Blind Low Vision for forty years and am still involved with the Blind Bowling Club.

My hobbies are genealogy, which I am hoping to have more time for now, and gardening.

On Thursday 2<sup>nd</sup> January Terry ZI2TNB President & Committee members Graeme ZI2TE & Ngaire ZL2UJT dropped off gift basket to the 720 repeater site owners for their great support over the years.

*This repeater was installed in 2013 so we are very grateful for their support and each year we Thank them with a gift.*



*Hope you have enjoyed this, see you at our coming activities  
Ngaire ZL2UJT*