

# The Official Newsletter of the Auckland VHF Group Inc. Spectrum



Simon Bridger  
discussing the  
meaning of SWR  
in a SOTA set-up.

For convenience  
5–10% reflected  
power lost will  
allow lighter  
equipment to be  
carried to your  
choice top.

Carl Laufer will give an update on his radar development — page 3

Working Bee at Clubrooms — page 3

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ITU Elects a new Secretary General — page 11



# Auckland VHF Group Inc.

## Branch 66 NZART

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 Clubrooms: 30 Hazel Ave, Mt Roskill

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ZL1VHD Dstar gateway registration URL :	<a href="http://zl1vhd.dstar.org.nz">http://zl1vhd.dstar.org.nz</a>			

### Club News and Net:

The combined Auckland VHF Group and Auckland Regional Branch News and Net are held on 146.625 MHz and 439.875 MHz at 8.15 pm each Sunday or after the ZL6A National Broadcast on the last Sunday of the month.

Club meetings are held at the Clubrooms at Hazel Avenue, on the second Monday of each month at 7.30 pm. For other details, listen to the News and Net each Sunday evening.

**SPECTRUM** is the official journal of the Auckland VHF Group Inc. Opinions expressed are those of the authors and do not necessarily reflect club points of view. The closing date for SPECTRUM articles is by the 1st of each month. Articles to be submitted to the editor Peter ZL1UKG  
**spectrum@aucklandvhf.org**

# **Auckland VHF Group (Inc) Branch 66**

## **Notice of Meeting**

At the Hazel Avenue Club Rooms  
(Located on the left at the end of Hazel Avenue)

**The Auckland VHF Group Meeting will be held on  
Monday 10 October  
At the Clubrooms, 30 Hazel Avenue at 7:30 pm**

Carl Laufer has talked to the VHF Group in 2019 about his passive radar speed detector. Carl has considerably developed the unit since that time and he is now having them produced in bulk in China. It is now called the KrakenSDR project and he will briefly cover developing and manufacturing of his products and give updates and some video demos on radio direction finding and passive applications.

See page 11 for a list of the uses of this new technology

### **All hands on deck!**

A Working Bee will be held this Saturday (8 Oct) at 10am to finish off several jobs in preparation for the clubrooms celebration on 29 October. Then the rooms will be bright and shiny! We have invited local council representatives and veteran members who we don't see very often. It will be a barbeque, so bring some stuff to cook and some drinks. We will put on some soft drinks.

At the May 2022 Committee Meeting it was determined that  
“The wearing of Face Masks at our General Meetings is now optional”

## Auckland VHF Group President's Column

### VHF Group Presidents Report October 2022

Our Clarke hydraulic tower needs a new home, again. If anyone knows of a site with a vacant corner please give me a yell. The tower will be a real asset once it's renovated, so it would be a shame to have to dispose of it for lack of accommodation.

The Klondyke work is quite challenging, with the new cable trays getting wrecked by the wind a couple of months ago. Replacement is difficult with the lack of weather openings. Up there we are also organising metering on power supplied to other users.



Meanwhile, down on the farm calving has finished, but it has been wetter than we have ever known. With no dry hard stand the cows are uncomfortable in the paddocks which are churned to mud within a few hours. We had a tornado a week ago which swept across several valleys. It demolished two of our calf shelters and brought down several of our big trees onto fences. Two of ours up in the top paddocks are threatening to roll away downhill if we start cutting them up. That would destroy fences and troughs, so we will have to anchor them with both tractors before we start cutting. There's a guy coming for hay soon, and I got the ute stuck when we went up to get it. I had to go back for the tractor and wire rope. As you can see I have not been anywhere near radio gear for months other than doing the Sunday news and net. Life goes on!

Cheers, Matthew King      022 6493310

### Coming Events:

- Sat 05 November    The Western Suburbs RC will be held in the Rosebank Road Primary School Hall, 217 Rosebank Road, Avondale. Vendors from 7:00 Buyers from 10:00am. Door charge \$2.00 per entry. Cafeteria with hot finger food, tea or coffee and soft drinks available. For further information contact Merv, ZL1SK, 09-8287174 or 027-4990262
- Sat 12 November    The Whangarei Amateur Radio Club (Inc) Branch 28 came into being in 1947 and will be celebrating its 75th Anniversary with a function in their Clubrooms, Heritage Park, Maunu. All past and present members are cordially invited to attend. The Clubrooms will be open from 1pm to allow socialising and viewing of photos etc. At 2pm there will be a formal welcome, a few short speeches and cutting of an Anniversary cake. Refreshments will follow.

**Minutes of the September General Meeting of the Auckland VHF Group Inc.,**  
held on Monday 12 September at the Clubrooms, 30 Hazel Avenue

The meeting commenced at: 19:45

**Present:** 14 members as per the Attendance Book plus ZL1XXX and 1 other via Teams.

**Apologies:** Nil

**Minutes of the August 2022 General Meeting** – as published on page 5 of the September 2022 issue of Spectrum.

Moved the minutes were a true and correct record: ZL1YOT

Seconded: ZL1TUJ Result: Carried

**Matters arising:** NIL

**Reports: NZART Conference**

ZL1VH gave a report on the 2022 NZART Conference held in Wellington over the weekend of September 10 and 11. Details to be published in October Spectrum.

**General Business:** Motions to record adoption of minutes:

1. That the minutes of the General Meeting held on 8 October 2021 as published in Spectrum are a true and correct record of that meeting. Moved: ZL1YOT  
Seconded: ZL1TCI Result: Carried
2. That the minutes of the General Meeting held on 14 February 2022 as published in Spectrum are a true and correct record of that meeting. Moved: ZL1YOT  
Seconded: ZL1TUX Result: Carried

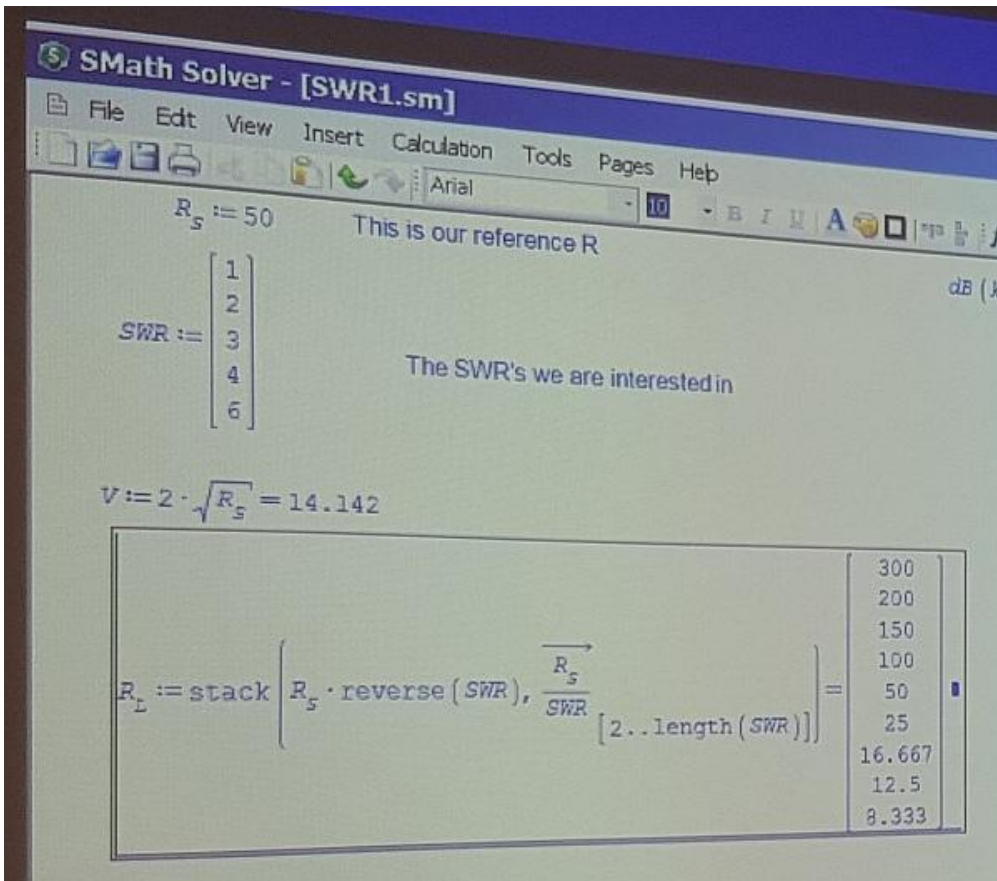
There was no further general business. President Matthew ZL1YOT invited the evening's guest speaker, Simon Bridger ZL1THH to take the floor.

**Simon Bridger ZL1THH is interested in SOTA operation.** With the need for portable operation, and limited antenna capability how does it handicap your signals? Is a 3:1 SWR really just a 25% mismatch loss as transmission line as theory tells us or are there additional losses?

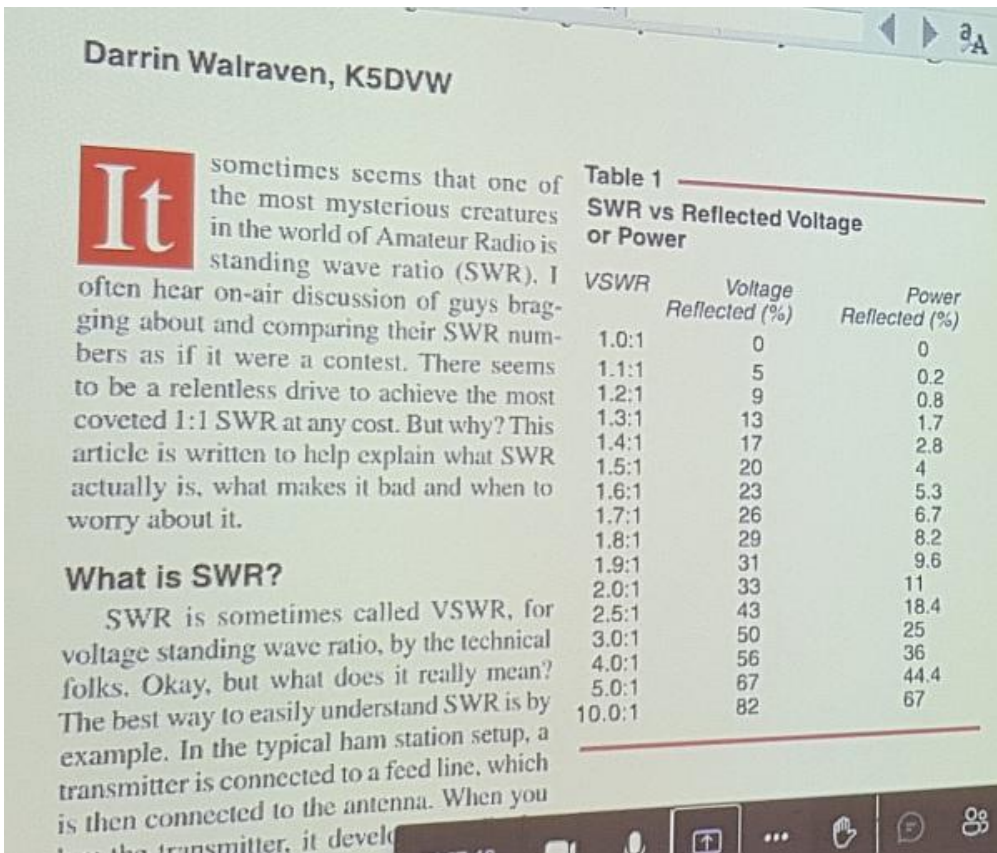
Simon demonstrated what happened when the load on the antenna end of a transmission line was varied from the ideal match of 50 Ohms up to 300 Ohms and down to 8 Ohms. He directly measured the power an actual transmitter delivers into the antenna for different SWR's and loads you might see on a SOTA antenna, to show what really happens.

In an ideal world, with a signal source (transmitter) having an output impedance of 50 Ohms, connected to a transmission line (coax cable) having a 50 Ohm characteristic impedance, connected in turn to an antenna with 50 Ohm impedance, then all the power generated by the signal source will be delivered to the load. As there is no impedance mis-match anywhere, there will be no power reflected back along the transmission line and SWR will be 1:1.





The relation between resistive load and SWR



The relation between SWR and efficiency

Simon used 100R resistors in combinations mounted on a rotary switch to provide various loads to demonstrate the tables above

Note that some older types of resistors are adjusted by etching a spiral in the coating to increase the impedance which can matter at V/UHF

All real voltage sources have some output impedance that is not zero. This impedance can be resistive, reactive, non-linear, or any combination of these.

Meeting closed at 2035, followed by a cup of tea/coffee and informal chat.  
Thanks George ZL1TUX for organising the supper.

### **Whangarei Amateur Radio Club Anniversary**

If you are interested in attending please register by contacting Allan [nedq@xtra.co.nz](mailto:nedq@xtra.co.nz) or Rose [h.r.deverell@xtra.co.nz](mailto:h.r.deverell@xtra.co.nz)

Registration is free.

A special event station is also operating. Find details on the club website [zl1am.org.nz](http://zl1am.org.nz) or contact Ian [gw0vml@gmail.com](mailto:gw0vml@gmail.com)

Also, keep an ear out on our official Club-nets.

73 Allan Walker ZL1AW  
Secretary Branch 28

### **NZART Conference 2022**

Held at the Brentwood Hotel, Wellington over the weekend of 10 and 11 September

The AGM commenced at 10.30 am.

After a welcome from President Mark, ZL2UFI, the roll call was taken to confirm that there was a quorum. To go ahead, the meeting required 2/3 of the transmitting members of the Association to be represented (1078) – the roll call established that 1422 transmitting members were represented. (Some via Teams)

The meeting stood for 1 minute's silence remembering the death of Queen Elizabeth II.

Amateur silent keys – Douglas Birt ZL1BFS, Kenneth Birt ZL2UCJ, Frank Hunt ZL2BR, Ray Dyer ZL1AIS, Bev Gilman ZL3OV, Jim Lovell ZL3AGS, Alan Dale ZL1ABL, Brian Aimes ZL2AYF, Alan Wooller ZL1AUW, ZL4OZ, Ian Sexton ZL1PZ, Barbara Pattison ZL1DOT, Dennis Thornton ZL1TAY, Murray Greenman ZL1BPU, Turner Fielding ZL1CDX, Jim Parnell ZL2APE, Bill Cooper ZL1BAB, Mike Price ZL2MCP

Minutes of the 2021 AGM held in Napier were deemed to be a true and correct record ZL1AOX/  
ZL2TW

ZL2UFI reported on the outcomes of the Friday Council Meeting:

- > Financial loss of about \$18,000 for the last financial year. Expenditure on the Porirua District Plan and reduced subscription income. Need to increase membership.
- > With the retirement of Evan Sayer, a new treasurer has been appointed: Stuart Burns, an accountant and has been involved with the Ulysses Motorcycle Club.
- > A new cloud-based membership system is being introduced and will take effect from 1 January 2023. Not integrated with the Zero Accounting System for reasons not explained.

- > The fee to sit the Amateur Radio Examination, currently \$95.00 is being reduced to \$80.00 and the fee to apply for or change a callsign is reduced from \$50.00 to \$35.00.
- > Subscriptions for the 2023 year remain the same.
- > Auckland confirmed as the venue for the 100th Centenary Conference in 2026. Council plans a full 12-month build-up to the conference. Date to be confirmed. August 16 1926 was the actual founding date, but a Conference over King's Birthday Weekend 2026 may be a better option.
- > Wentao Dong, ZL1WEN appointed Youth Officer.
- > Council had dealt with a disciplinary matter involving a complaint against a member resulting in that member being expelled from the Association.

Chorus Access – ZL2TW reported on the state of negotiations with Chorus for access and on-going use of the various Chorus sites around New Zealand. In summary, the status quo remains, and existing amateur repeaters can stay at their Chorus sites at no charge. To get a national agreement with Chorus will require a commercial agreement and the amateur equipment will be charged. Old NZ Post Office and Telecom agreements are no longer valid. Recommended that the clubs concerned come up with a "Plan B" and find an alternative site.

Kordia Agreement – Negotiations with Kordia for a further three-year renewal of the sponsorship agreement are due to commence shortly. It was hoped that this would only involve a minimal increase in costs.

**Officer Reports** – as published in Break-In, these were dealt with fairly quickly. Stuart Watchman ZL2TW has had to resign as one of the ALO Officers due to increasing workload, leaving Richard Harkett ZL2FY to continue in this role.

IARU Liaison – John Moriarty ZL2JPM added to his report in Break-In. Currently a lot of work being done in IARU, particularly Region 1. Focus in the past has been on retaining amateur frequency allocations but now it's also necessary to watch the IEC standards being enacted as these generally become law in New Zealand – EV wireless charging is one of these with potential to cause significant interference to amateur HF bands.

With the untimely passing of Douglas Birt ZL1BFS, the Administration Liaison Officer position is vacant, and Council would like to fill this urgently.

**Break-In Awards** – Philip, ZL1PSH, Editor and Doug, ZL3DUG deputy editor presented the annual Break-In awards. Best general article was Chris Rae ZL4RA for his item on SOTA. Best technical article award was to Graham ZL2APV for his item on building a multi-band HF antenna (Nov/Dec 2021 Break-In). The award for best columnist was posthumously awarded to Murray ZL1BPU for his Digital Modes column.

#### **Finance:**

Evan Sayer, outgoing Treasurer spoke to the financial report in Break-In. He noted the financial loss the Association has had for the past three years and repeated the call for an increase in NZART membership. He suggested that there could be other ways to reduce costs – Conference every second year; was there a need to print Call-Book? Council was looking at ways to reduce Association costs going forward. Evan had given 25 years to the position of NZART Treasurer and



had also had 60 years involvement with the Brass Band association in New Zealand. He played some short video clips of brass bands to show young people having fun! He suggested that NZART needed to look for younger people and offer help/support and mentoring.

At the conclusion of Evan's report, Mark ZL2UFI thanked him for his many years of service and to help Evan and his wife enjoy retirement plans which include overseas travel, Debby ZL2DL presented him with a set of three suitcases (the two larger ones for his wife and the smallest for Evan)

**2m/70cm Band Plan Review** – this work had concluded and on a motion from Warren ZL2AJ, the meeting approved its adoption. The new 2m and 70cm band plans can be downloaded from the NZART web site. John Wysocki ZL2TWS had taken a lead role in coordinating the submissions and produced the final report. <https://www.nzart.org.nz/info/band-plan/>

**Amateur of the Year** – Awarded to Bob Vernal ZL2CA for his excellent negotiations with Radio Spectrum Management and the NZ Defence Force to clear the WRC 2015 allocation of 5351.5 – 5366.5 kHz for use by ZL amateurs.

**Jumbo Godfrey Awards** for service at a Branch level went to Frank Hunt ZL2BR (posthumously) and Rosemary Boshier ZL1RO, the North Shore Radio Club Examination Supervisor.

Various 100% exam pass awards were given out and the Youth Award went to Albert Wang ZL1LB. The Rothchild Cup for the most exam passes went to Christchurch Branch 05. There were a total of 118 new amateurs in 2021, a record.

#### **Remits:**

Remit 1 (amend constitution to update banking, borrowing and account signatories) was amended with the removal of the word "three" so it now reads "...approved by any two of the authorising signatories on NZART bank accounts." With this amendment, Remit 1 was passed on voices.

Remit 2 (Council reduction in numbers and related membership matters). Christchurch Branch 05 and Auckland VHF Group Branch 66 submitted an amendment to change the minimum number of Councillors from 5 to 6. This amendment was put to the vote and could not be decided on voices. A show of hands was also inconclusive, so a vote count was taken. The result was 664 in favour, 535 against, so the amendment was passed. The amended remit was then put and passed on voices.

**Conference 2023:** There were no offers to host Conference 2023 from any of the Branch representatives present, so the 2023 Conference will be a one-day event at the Brentwood Hotel, Wellington on Saturday June 10, 2023 (one week after King's birthday Weekend). Council plans to set up a committee to run Conference each year and members wanting to be involved were invited to contact Warren ZL2AJ if they were interested.

#### **General Business:**

1. Thanks for Howard Buxton ZL1BXA for his work on Council. Howard has some health problems and will not be continuing on Council. Howard was present via Teams and the meeting showed their thanks by acclamation.
2. Query regarding Clause 2.6 of the Constitution. Currently there is no provision for amateurs who are members of NZART but who reside overseas, to belong to a Branch and are unable to vote. Discussion followed and Council will look at creating a Branch for these members to belong to and via that, be able to vote.
3. The NZART Logo. Query regarding the outline – rounded corners or sharp corners. President ruled that the badge as displayed which has sharp corners is the only one to be used. [This is wrong, the NZART document detailing this allows the use of sharp or rounded corners – ZL1VH]
4. Increase in Repeater and Beacon Fees. RSM has notified their intention to increase all fees for repeater and beacon licences from 2025. The amount of the increase is not yet known. Historically RSM found they had been overcharging for licence fees and this resulted in a pool of money (about \$M10) which they have been drawing down on over the past several years to subsidise the annual fees. This fund is nearly exhausted and an increase in the 2025 year will be necessary.

That concluded the General Business.

The “Stirrers Award” went to Warren Harris ZL2AJ for some “appropriate” interjections.

The AGM concluded at 1430.



Top table: Evan Sayer (outgoing Treasurer)	Debby Morgan ZL2DL Business Manager	Mark Gooding ZL2UFI President	Daniel Vandenburg ZL2DRV Vice-President.
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## ITU Elects new Secretary General

In an historic election, the International Telecommunication Union (ITU), the United Nations specialised agency for information and communication technologies, has announced the election of Doreen Bogdan-Martin of the USA as the next ITU Secretary-General. Bogdan-Martin will assume office on 1 January 2023.

The election took place during the ITU's Plenipotentiary Conference in Bucharest, Romania on Thursday September 29, 2022. She is the first female Secretary General of the ITU and of importance to the amateur radio community, she is a radio amateur with the callsign KD2JTX.

Tim Ellam, VE6SH, IARU President welcomed the appointment and noted that Doreen has an exciting agenda for the ITU including a focus on youth development and involvement. "She will make an outstanding ITU Secretary-General and one IARU will be proud to work with on behalf of the Amateur Services".

Want to know more:

<https://www.itu.int/en/mediacentre/Pages/PR-2022-09-29-ITU-SG-elected-Doreen-Bogdan-Martin.aspx>

Thanks ARRL Letter for this item.

## **KrakenSDR - a Software-Defined, Coherently Operated, Five-RX-Channel Radio Based on RTL-SDR**

A coherent radio allows for very interesting applications, such as radio direction finding, passive radar and beam-forming. Some use cases include:

- > Physically locating an unknown transmitter of interest (e.g. illegal or interfering broadcasts, noise transmissions, or just as a curiosity)
- > HAM radio experiments such as radio fox hunts or monitoring repeater abuse
- Tracking assets, wildlife or domestic animals outside of network coverage through the use of low power beacons
- > Locating emergency beacons for search-and-rescue teams
- > Locating lost ships via VHF radio
- > Passive radar detection of aircraft, boats and drones
- > Traffic-density monitoring via passive radar
- > Beam-forming
- > Interferometry for radio astronomy

Come along to our General Meeting on Monday 10 October to find out more about this fascinating development!

## VHF Group Subscriptions are now due for 2022-2023 year.

Subscriptions are now being accepted for the 2022-2023 year, 1 July 2022 to 30 June 2023.

This coincides with the change of the financial year to ending 30 June 2022. The change is intended to give sufficient time to get the accounts sorted and reviewed before the AGM in November 2022. Invoices will be sent out in May to all members who have not renewed by that time.

### Note on Subscriptions

- a. There is an increase for the 2022-2023 subscription year.
- b. All yearly subscriptions terminate on 30<sup>th</sup> June each year. To keep your membership active, we need to receive your subscription renewal by that date.

Subscription Type	Subscription Price
Ordinary Members (Full)	\$60.00
Associate Members	\$55.00
Family Members	\$25.00

For Family Members, one person needs to be an Ordinary Member, and then each additional family person then becomes a family member.

## 50th Anniversary of opening of clubrooms

Location: Hazel Ave Clubrooms

When: Saturday, 29 October 2022 2:00 pm – 4:00 pm

Description: Join us for finger food and refreshments to celebrate the 50th Anniversary of the opening of the Hazel Ave Clubrooms

View a demonstration of the National System Radio Repeater Network.

See the latest SDR Radio in Operation Watch a Microwave Contest Station in action.

Meet some of the characters who have made the Auckland VHF Club what it is today.



**Amateur Radio Emergency  
Communication.  
Volunteers in radio communications.  
Using our resources to help the  
community.  
**INFORMATION****



The Auckland VHF Group has an AREC Group that works closely with Auckland Council Emergency Management. They provide advice, resources and manpower to assist in times of need.

The AREC section is headed by Group Leader Matthew King ZL1YOT.

From time to time the VHF Group has training sessions and exercises. Members also assist with sports events, parades and other community activities. For further information about AREC please see the NZART web site: <http://www.nzart.org.nz/arec/>

**JOIN BRANCH 66 AREC**

All members of the Auckland VHF Group are encouraged to join the AREC section. Your contribution, large or small is appreciated by all involved. For further information about joining Branch 66 AREC contact the Group Leader:

Matthew King ZL1YOT                      022-6493310                      mattking@gmail.com  
The Deputy Leader position is currently vacant

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**AREC News:**





## AUCKLAND VHF GROUP (INC)

SUPPORT THE EFFORTS OF THE VHF GROUP THROUGH YOUR  
SUBSCRIPTION

### SUBSCRIPTIONS FOR 2022

THE SUBS GO TOWARDS;

- Maintenance and on-going improvements to beacons, repeaters and linking systems for the national system, including the Klondyke repeater site.
- Providing on-time and free access to spectrum magazine as soon as it is available.
- Providing facilities for good speakers and lecturers at our general meetings.
- Discounted access to our trading table goodies.
- Access to test equipment and technical help when needed.

FULL MEMBERSHIP **\$60.00**

ASSOCIATE MEMBERSHIP **\$55.00**

FAMILY MEMBERSHIP ADDITIONAL **\$25:00**

*SEE ATTACHED MEMBERSHIP RENEWAL FORM (next page)*

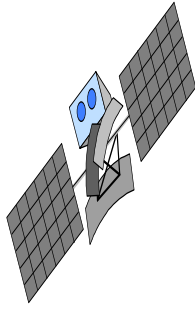
**REMEMBER TO KEEP US INFORMED OF YOUR EMAIL  
ADDRESS!**

**OTHERWISE WE CANNOT SEND YOU SPECTRUM!**



**Thought for the month:**

“The most difficult thing is the decision to act. The rest is merely tenacity.”



# AUCKLAND VHF GROUP INC.

P O Box 10138, Dominion Rd, Auckland 1446,  
 30 Hazel Avenue, Mount Roskill, Auckland,  
 Email: [treasurer@aucklandvhf.org](mailto:treasurer@aucklandvhf.org)  
 Web: <http://www.aucklandvhf.org>  
 NEW ZEALAND



				Date Form Completed	
Mr/Mrs/Miss/Ms	Forename			Surname	
	Address1			Phone: (home)	
	Address2		NZ Post Code	Phone: (work)	
	Town/City			Phone (Mobile)	
	Email			Phone (Cell)	
Occupation:				Callsign:	
NZART Member	Yes / No	Branch assigned			
AREC Member	Yes / No	Branch assigned			
Family Member 1	(Name)	(Call)	(Email)	(Mobile #)	
Family Member 2	(Name)	(Call)	(Email)	(Mobile #)	
Family Member 3	(Name)	(Call)	(Email)	(Mobile #)	
New/Renewal/Change	Membership Category			To pay	
	Ordinary (Full)			\$60.00	\$
	Associate			\$55.00	\$
Family (per member after 1 full member registered at same address)			\$25.00	\$	
Donations	Klondyke Refurbishment			\$	
	Repeater Maintenance			\$	
	Data/D-Star			\$	
	Beacon/Repeater/Links Licences			\$	
	General Club Donation / Other			\$	
			<b>Total</b>	\$	
Payment (Mark One →) If require Invoice / Receipt <b>Please Advise Treasurer</b>			Cash <input type="checkbox"/>	Internet deposit <input type="checkbox"/>	Other: <input type="checkbox"/>
Internet	Account <b>ASB 12-3011-0830580-00</b> . Account Name: <b>Auckland VHF Group Inc.</b> Include your <b>Name/Callsign</b> for track. Note: this form needs to be sent to us to update our records. Email to: <a href="mailto:treasurer@aucklandvhf.org">treasurer@aucklandvhf.org</a> . (Especially if Contact information has changed)				
Post	The Treasurer, Auckland VHF Group Inc. PO Box 10138, Dominion Road, Auckland 1446.				
In Person	Bring this form and payment to the next club meeting, 2 <sup>nd</sup> Monday of the month or to the Committee meeting the 4 <sup>th</sup> Monday of the month.				
Privacy	Unsubscribe from Email Notifications <input type="checkbox"/>			Do Not disclose contact Information <input type="checkbox"/>	
	Unsubscribe from Google Groups <input type="checkbox"/>				

Club use only: <input type="checkbox"/>	Approved: <input type="checkbox"/>	Not Approved: <input type="checkbox"/>
Sponsored by*		Sponsor's Callsign*
*New members only.		Date:

The information requested is for membership records required to be maintained under the Incorporated Societies Act and having due regard to the provisions of the Privacy Act

***The Auckland VHF Group Inc Branch 66 NZART***  
*gratefully acknowledges the sponsorship of Branch 66 Beacons, Repeaters and  
 Fixed Links license fees and the Group's repeater operations by the following  
 radio amateurs and NZART Branches for 2022*

**2021-2022, Donations for Repeater Licences and Klondyke Refurbishment**

<b>Frequency + Operation</b>	<b>Location</b>	<b>Donation</b>	<b>Donor Name</b>
53.725 Repeater	Klondyke Road	\$50.00	Gwynne Rowe
144.253 Beacon	Nihotupu	\$50.00	
144.575 Digipeater	Whitford		
145.625 Data Rptr	Klondyke Road		
145.650 D-Star Rptr	Klondyke Road	\$50.00	
146.625 Repeater	Klondyke Road	\$50.00	David Wilkins
146.700 Repeater	Ruaotuwheua	\$50.00	
146.900 Repeater	Mt Puketutu	\$50.00	David Wilkins
432.253 Beacon	Nihotupu	\$50.00	
438.175 D-Star Rptr	Klondyke Road	\$50.00	
438.450 Repeater	Klondyke Road		
438.500 Repeater	North Head	\$50.00	
439.850 Kaimai Link	Klondyke Road	\$50.00	
439.875 Nat System Rptr	Klondyke Road	\$50.00	Soren Low
439.900 Egmont Link	Klondyke Road	\$50.00	
439.950 Brynderwyn Link	Klondyke Road	\$50.00	
1291.900 Repeater	217 Glenfield Rd	\$50.00	
DMR Rptr (Waitakere)	Quinns Rd	\$50.00	NZART AREC
		<b>\$250.00</b>	

**2021-2022, Donations for Refurbishment**

Rob Heyer VK2XIC	\$4.41
	\$0.00
	\$0.00
	\$0.00
	\$0.00
	\$0.00
	<b>\$4.41</b>

**Total** **\$254.41**

**Klondyke Tower  
Donations towards Maintenance**

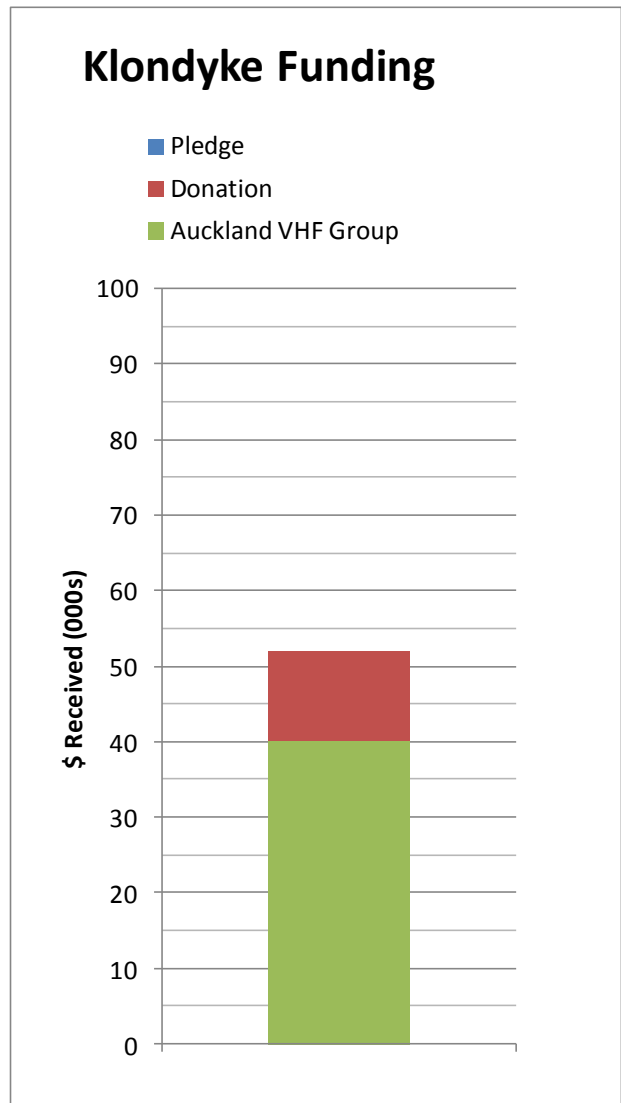
**Target 100,000**

Name	Donation	Pledge
Donations 2018 - 2021	9479.00	
George Marr ZL1TUJ	100.00	
Dave Dingley ZL1TIA	205.00	
Estate Ian Sexton ZL1PZ	950.00	
Estate Tony Babish ZL1ATE	500.00	
John Sexton ZL1AQS	750.00	

Tower	63,245.00	Other	27268.25
GST	9,486.75		
Total	72,731.75	Total	27,268.25

Auckland VHF Group 40,000.00 40.00

Total 11949.00 -  
Percent 11.98



## TRADING TABLE

Currently our Trading Table is only open on meeting nights.

**NEW** – Printed Circuit Board. Thanks to a generous donation from N.Z.'s last circuit board production company (now closed down), we have a large quantity of single sided fibreglass printed circuit board material in sizes ranging from 1200 x 600 down to smaller pieces. There's some double sided board as well. Come along to our May meeting if you want some – prices can be negotiated!

**NEW** – RG58C/U 50 Ohm Coaxial Cable. Thanks to a bulk purchase we are able to offer this good quality coax at a competitive price. The cable has tinned centre conductor and screen braid making it resistant to long term corrosion. The price is \$2.00 per metre with a discount for purchases of 20m or more. See Vaughan ZL1VH on meeting nights to get this quality coax cable.

The Trading Table is now on line. Navigate your way to our new look web site at <https://aucklandvhf.org/> and click on TRADING TABLE (the most right hand tab).

Wait a few seconds and the on-line version of the Trading Table will pop up. From here you can browse the various sections, dig deeper to look at what's available and even place your order online.

If you prefer to just look at the Trading Table List, just hover your mouse pointer over the TRADING TABLE and a pull down list will appear. From this you can access the full trading Table list and download it in .PDF form.

We also have heaps of parts from dismantled commercial analog TV gear – transmitters, filters, circulators, patch panels, power supplies. Too much to list individually, so come along to the clubrooms and have a look.

