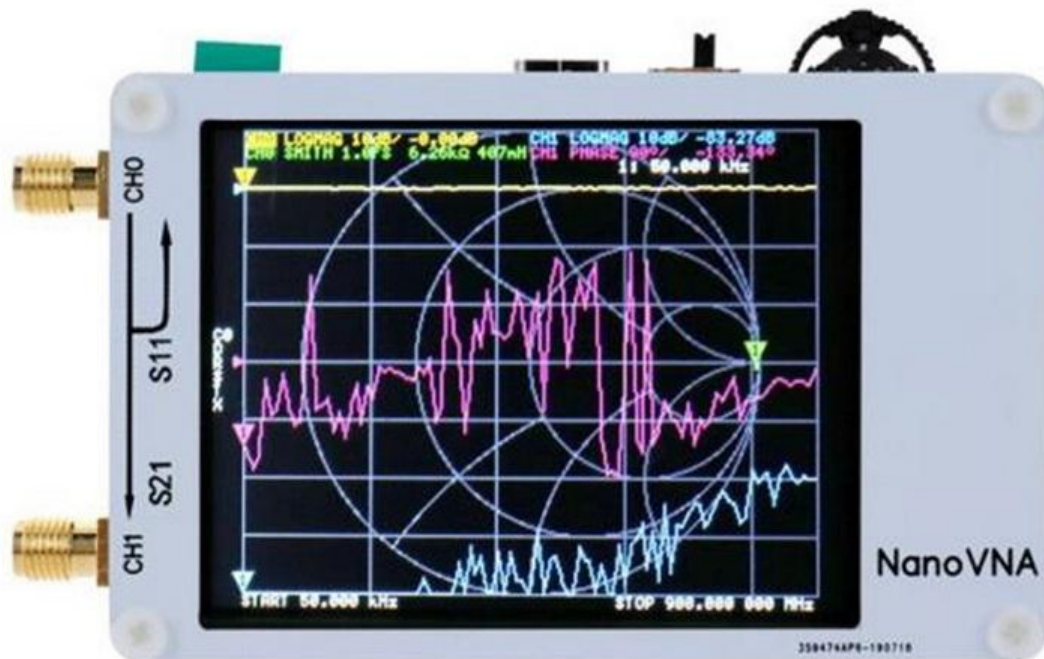


The Official Newsletter of the Auckland VHF Group Inc. Spectrum



A Nano VNA (From the Internet)

The Meeting Agenda — page 3
President's Column and Franklin Sale — page 4
The June Meeting & Nano VNA Presentation — page 5, 8
The Klondyke Site Report — page 6, 7
New APRS Repeaters in the South — page 8
Subscriptions are due — page 9
AREC News — page 10



Auckland VHF Group Inc.

Branch 66 NZART

PO Box 10138, Dominion Rd, Auckland 1446
 Clubrooms: 30 Hazel Ave, Mt Roskill

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Head Repeater Trustee	Vaughan Henderson	ZL1VH	021 844 804	repeatertrustee@aucklandvhf.org
Klondyke Manager	Vaughan Henderson	ZL1VH	021 844 804	6625@aucklandvhf.org
670 Manager	Vaughan Henderson	ZL1VH	021 844 804	670@aucklandvhf.org
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Club Web Page:	http://aucklandvhf.org			
ZL1VHD Dstar gateway administrator:	Laurie	ZL1ICU	634 5130 0274 817463	perma@xtra.co.nz
ZL1VHD Dstar gateway registration URL :	http://zl1vhd.dstar.org.nz			

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)

There is no presentation arranged for this month

**The Auckland VHF Group Clubroom will be open on Monday 11 July
at 30 Hazel Avenue at 7:30 pm
Greg Storz ZL1GSG will have a key to open the Clubrooms
to chat and drink a tea or coffee**

All welcome.

At the May 2022 Committee Meeting it determined
that Face Masks are now optional

Editorial

Now without a Secretary there may be gaps in the records at Meetings and a variety items and 50 years ago to show where the VHF Group came from. I hope that the President and Committee can volunteer or find a new member to fill this role. Vaughan has been doing a very good job making sure that the Contractors use better quality materials in the job at Klondyke. He often switched the National Broadcast for Sunday. Vaughan was also very good as a Proof Reader for the Spectrum Newsletter. I apologise for the occasional faux-pas that may appear in the future.

Coming Events:

- Tue 19 July The Franklin Junk Sale will be held in the clubhouse at 19 Stadium Drive, Pukehoe. Start time is 7:30 pm prompt. The sale is led by a Sales Conductor. At the end of the sale here will be a complimentary supper served.
- Sat 27 July Whangarei Amateur Radio Club, Heritage Park, Whangarei Sellers from 9 am, Buyers from 10 am. The VHF Group will have a selection from their stock. Refreshments are available at the venue.

Auckland VHF Group President's Column

VHF Group Presidents Report July 2022

I am reluctant to report that Vaughan ZL1VH, our Secretary and Trading Table manager, has decided to stand down from those roles. He is staying on in the meantime as Repeater Manager. Vaughan has been one of the backbones of the club since I joined it in the 1980s, and we expect to see him around regularly. Thank you, Vaughan, for your generous contributions and support of the club.



So we will be bending arms to acquire a Secretary and Trading Table manager in the next few weeks. In May the Speaker for July had been arranged but two weeks before the Meeting the guest speaker advised that he would not be able to attend in July.

On a frivolous note, at the AREC weekend we learned that longevity can be ensured by becoming a radio ham. The Wellington crew reported that the average age of Amateurs in our country is about 105! They then explained that NZART is often not notified of the passing of amateurs, hence the figures become skewed.

I have been up in the far north for a week, taking a break before calving starts. It didn't work the repeaters because Janice (ZL1JMP) and I don't very often have time off together. But we did get to Unahi and pick up a Kenwood HF rig I bought on TradeMe a couple of months ago. We will be home tonight, so I should have a wire up in the trees after a few days, to try it out. Its thirty years since I was on HF, so it will be a novelty. We have mature gum and redwood trees around the paddocks, so I should be able to run out a good length of wire. Might have to turn off the electric fence when receiving!

Cheers, Matthew King 022 6493310

Franklin Junk Sale

Vendors are encouraged to bring their items in saleable lots. A confidential reserve price may be nominated to the conductor. Buyers are asked to pay to the cashier, on the night, or register with the cashier prior to the sale if making electronic payment.

The Franklin Amateur Radio Club account with Pukekohe BNZ is
02-0404-0157944-00

If making electronic payment please identify with your callsign and Junk Sale
in the reference fields.

Vendors may arrange for items to be delivered ahead of the sale by contacting the Secretary at
09-2388580 or 0210-8186962 or zl1to@nzart.org.nz

At the conclusion of the sale a complimentary supper will be served.

**Minutes of the May General Meeting of the Auckland VHF Group Inc.,
held on Monday 13 June at the Clubrooms, 30 Hazel Avenue**

Present: 14 Members were present . The Secretary could not attend on this night.

June General Meeting Report

No business was brought up by the members present and no reports were presented. A short verbal summary of progress at Klondyke was given. The damage to inadequate coax trays lead to the National System UHF repeaters being off the air. The weight of unsupported coax could have caused more damage.

Greg Storz was introduced and set up the equipment he used for his demonstration.

Greg Storz ZL1GSG shows how to use a Nano VNA

Greg has 30 years of experience with RF equipment, at up to 20 GHz

The Nano VNA has a small screen of TFT (320 x 240 pixels) of 2.8" or 71 mm wide. It can be used up the 4 GHz. When you are sitting next to it, it appears to be quite sharp. It can present a range of graphs and Smith Charts. In order to make it visible to the audience a small camera was positioned above the VNA and replayed by the projector for club presentations. The camera was not on its best performance this evening.

To begin to use it the parameters of the cables and components used to make observations on the device under test must be known. Greg showed what was required to calibrate for the components used to connect to the Device Under Test (DUT). Greg uses SMA (f) sockets to the PCB with surface mount R/C/L for ease of connection to the Test cable. Greg advises using high quality cables, connections and attenuators such as MiniCircuits

The Nano VNA is only a 1.5 port device. A real VNA is a 2 port device. This unit has a PLL oscillator up to 4 GHz with an accuracy of ~ 0.1%. This VNA draws 2 lines (Blue/Yellow) showing input power and reflected power to the VNA.

When measuring antennas use a ferrite tube around the cable close to the DUT or the cable becomes part of the antenna under test.

There must be a driving test before the User learns by experience and documents the set up so that it can be repeated for future tests.

Made from notes taken during Greg's presentation by Peter Loveridge

Light refreshments were set out for the members present

Meeting Closed after 10:00 pm

Klondyke Repeater Site Report – by Vaughan ZL1VH

As most of you know, we let a contract to the rigging company used by our tenant Compass Communications – Lambda Communications Ltd. The contract was to replace the existing two runs of cable tray up the tower and replace the ladder which runs up the vertical section of the tower. All these items had suffered from salt laden wind and the resulting corrosion. The work started in early February this year and by the first week of March, a new ladder was in place and new cable tray up 2/3 of the tower. Weather delayed the completion of the cable tray up the rest of the tower.

On 20 June Harry ZL1BK, Keith ZL1BQE and I made a visit to the site to find out why the National System UHF repeater (439.875 MHz) was not working. The reason soon became obvious – the new cable tray was no longer holding the many coax cables to the tower and what was left of the cable tray was now being held in place by the cables it was supposed to be supporting! Apart from taking some photos, there was little we could do to address the broken cable tray. The day was quite windy, and the remaining sections of cable tray were acting like sails, pulling the coax cables about in a random manner.

An urgent phone call got the riggers in action and by Thursday June 23, all the broken and torn sections of cable tray had been removed and all the coax cables are bunched together and tied back to the tower. At this stage, apart from being sure that the problem with the National System UHF repeater was due to damage to the two coaxial feedlines from the cable tray coming away, it was not clear what we needed to do to get the repeater back on air.

Bad weather prevented another site visit by the riggers until the following Monday when I got a report that the coax cables had pulled out of the 4-way splitter on both the North and South antenna bays and the coax cables had dropped down towards the bottom of the tower. The National System UHF repeater has four 7-element Yagi antennas facing North and a second bay of four 7-element Yagi's facing south. The Yagi antennas are combined using a 4-port splitter/combiner. Separate coaxial cables come down from each of the splitters and into the equipment building.

The rigging company has accepted responsibility for the failure of the cable tray and will be making good any damage caused. Finally, on Friday 8 July, I got hold of the two 4-port splitters and will now repair these.

Where to from here – Instead of continuing to try and use the Unistrut galvanised cable tray which failed mechanically – the tray pulled out of the fastening bolts and tore around the mountings, attributed to a lower quality thinner gauge steel now being supplied, the new cable tray will use aluminium ladder tray. This comes in 6m lengths and will be mounted using rubber strips between the aluminium and the galvanised steel tower structure to minimise possible electrolytic corrosion problems in the future. I have researched the potential corrosion issue due to dissimilar metals and by insulating the aluminium ladder tray from the tower, future problems with cable tray corrosion appear to be minimal. If any of our members have better information on this topic, please let me know.



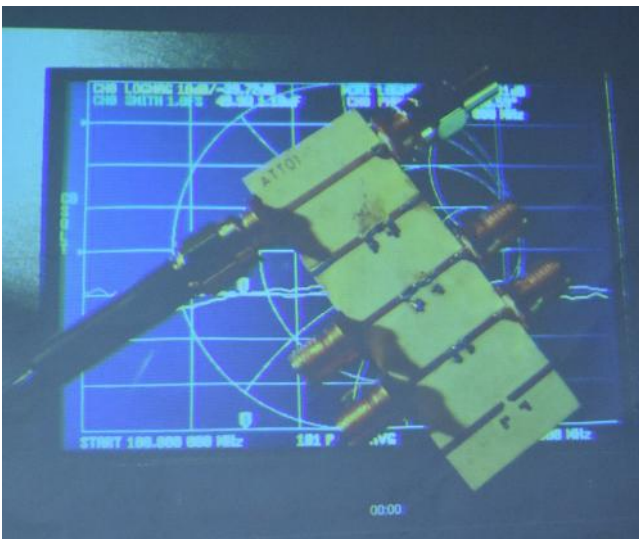
Cables broken away from the trays.



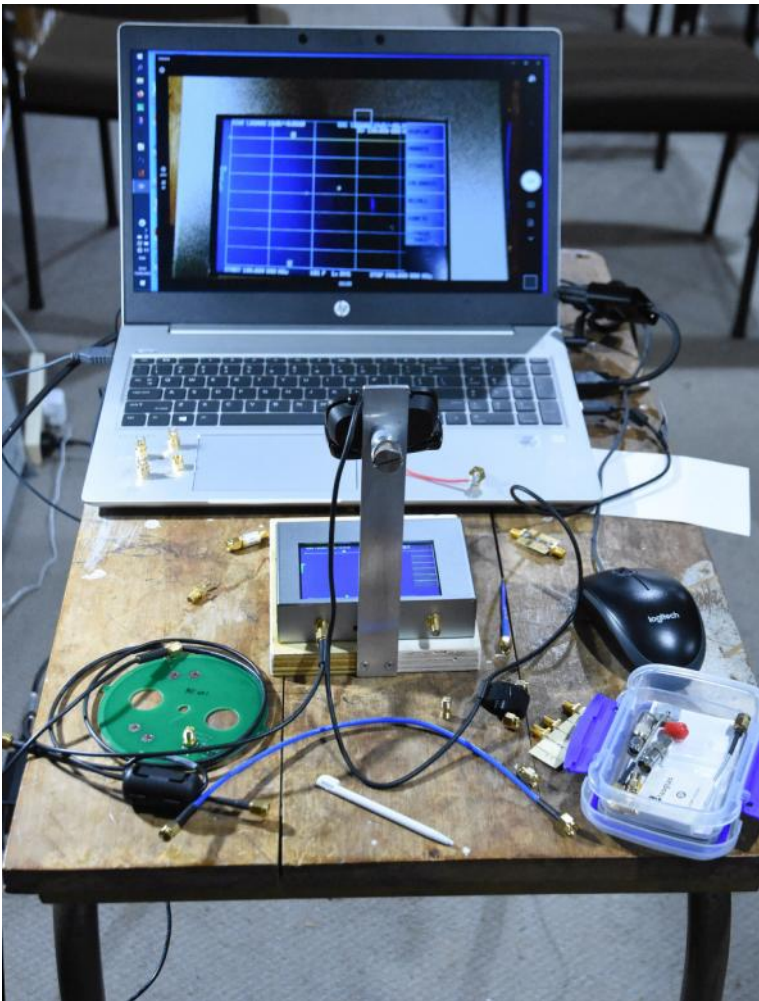
N(f) connector wrenched off the splitter taking down the National System Repeaters.



Sample of similar cable tray to be fitted.



Cables, PCBs and Components used to connect the VNA to the Antenna under study



Greg's demonstration table.

Sample of the projector display on the night.



APRS Repeaters in the South

I am happy to announce I have installed two new APRS repeaters in the South. These were originally transmitting on a special frequency in the EE band for Search and Rescue purposes. Now they are linked into the 144.575 network.

Old Man Range: (ZL4FOX-15) 1.6 km height. 45°21.7408S, 169°12.7698E

Blue Mountains: (ZL4FOX-14) 1 km height. 45°53.0492S, 169°23.6202E.

3 Also a new I-GATE which links both repeaters to APRS-IS:

Roxburgh: (ZL4FOX-13) 45°32.2985S, 169°18.7003E.

The Blue Mountains repeater links even directly to the Christchurch repeater, at 380 km distance! I generated a coverage map for the area from Christchurch down: https://sartrack.nz/aprs/APRS_Coverage_South.jpg

Spread the word!
Thanks, Bart ZL4FOX

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 30th 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

AREC News:

Wednesday 13 July:

Auckland LandSAR will be holding their monthly training at Totara Park, near the Auckland Botanic Gardens on Wednesday 13 July. Time: 1900-2100. AREC will be providing comms. This will be a night time navigation exercise and there should be plenty of radio traffic. We will be running a SARTrack operation to monitor the field team locations and record messages etc. Any AREC members who would like to attend and observe the operations are welcome. Call Andy ZL1COP 0223546451 or email rmnth@arec.nz for more info. Anyone who wishes to monitor the comms and/or the SARTrack activity from home is welcome to do so.

To make it easy for AREC members to monitor the activities we will be running the comms on a SAR portable repeater located nearby which should give reasonable coverage over most of Auckland. The ESB band channel will be confirmed closer to the date. (It will be 141.7125, 141.725 or 141.7375 depending on which repeater unit is available). Most amateur 2M rigs these days can receive on these freqs. Just remember – no transmitting!

The SARTrack activity will use the AREC SARTrack group 6400. If you wish to monitor SARTrack and have not already down loaded the SARTrack Client software you can get it at https://download.sartrack.nz/downloads/sartrack_inst.exe Once you have downloaded and installed the software give me a call or email and I will give you the access info to allow you to monitor the activity. The SARBase team will monitor the Klondyke 6625 repeater during the operation so if you need any help give us a call.



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)

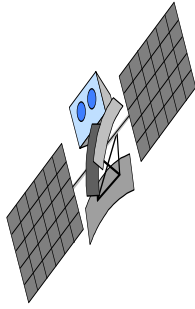
**REMEMBER TO KEEP US INFORMED OF YOUR EMAIL
ADDRESS!**

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
 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					\$	
				Total		\$	
Payment (Mark One →)				Cash <input type="checkbox"/>	Internet deposit <input type="checkbox"/>		
If require Invoice / Receipt <i>Please Advise Treasurer</i>				Other: <input type="checkbox"/>			
Internet	Account ASB 12-3011-0830580-00 . Account Name: Auckland VHF Group Inc. Include your Name/Callsign for track. Note: this form needs to be sent to us to update our records. Email to: treasurer@aucklandvhf.org . (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 nd Monday of the month or to the Committee meeting the 4 th 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

Frequency + Operation	Location	Donation	Donor Name
53.725 Repeater	Klondyke Road	\$50.00	Gwynne Rowe
144.253 Beacon	Nihotupu	\$50.00	Terry Corin
144.575 Digipeater	Whitford		
145.625 Data Rptr	Klondyke Road		
145.650 D-Star Rptr	Klondyke Road	\$50.00	Terry Corin
146.625 Repeater	Klondyke Road	\$50.00	David Wilkins
146.700 Repeater	Ruaotuwheua	\$50.00	Simon Bridger
146.900 Repeater	Mt Puketutu	\$50.00	David Wilkins
432.253 Beacon	Nihotupu	\$50.00	Terry Corin
438.175 D-Star Rptr	Klondyke Road	\$50.00	Terry Corin
438.450 Repeater	Klondyke Road		
438.500 Repeater	North Head	\$50.00	Terry Corin
439.850 Kaimai Link	Klondyke Road	\$50.00	George Marr
439.875 Nat System Rptr	Klondyke Road	\$50.00	Soren Low
439.900 Egmont Link	Klondyke Road	\$50.00	Yuri Muzyka
439.950 Brynderwyn Link	Klondyke Road	\$50.00	Terry Corin
1291.900 Repeater	217 Glenfield Rd	\$50.00	Michael Sheffield
DMR Rptr (Waitakere)	Quinns Rd	\$50.00	Auckland Area AREC
		\$750.00	

2021-2022, Donations for Refurbishment

Franklin Radio Club	\$200.00
Terry Corin, ZL1BPA	\$1000.00
Papakura Radio Club	\$500.00
Soren Low ZL1SLK	\$100.00
Ann Walker ZL1BFB	\$100.00
	\$1900.00

Total **\$2,650.00**

**Klondyke Tower
Donations towards Maintenance**

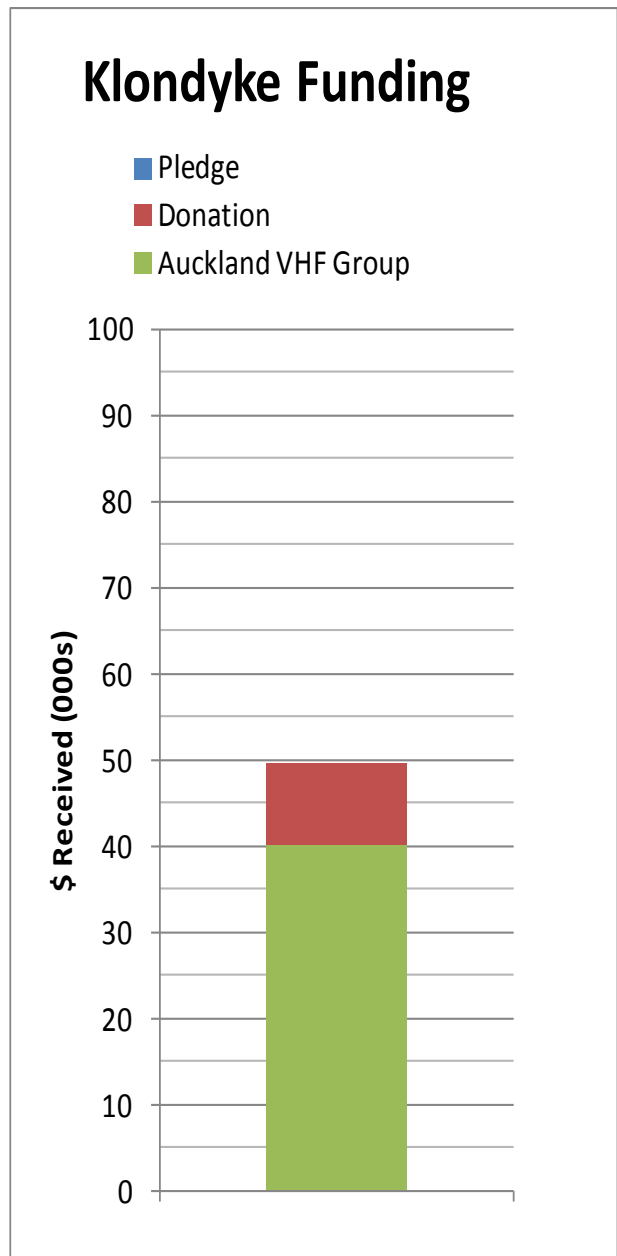
Target 100,000

Name	Donation	Pledge
Donations 2018 - 2021	9444.00	
George Marr ZL1TUJ	50.00	
Dave Dingley ZL1TIA	205.00	

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	9699.00	-
Percent	9.70	0.00



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.

