

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



Guess which one is the
670 antenna ?

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Auckland VHF Group Inc.

Branch 66 NZART

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

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ZL1VHD Dstar gateway registration URL :			http://zl1vhd.dstar.org.nz	
Webmaster	Terry Corin	ZL1BPA	027 697 4686	webmaster@aucklandvhf.org

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 Mark ZL1UMK
spectrum@aucklandvhf.org

Auckland VHF Group (Inc) Branch 66

**The next Auckland VHF Group General Meeting
be held on
Monday 12 June
At the Clubrooms, 30 Hazel Avenue at 7:30 pm**

**Subject: A Fix it Night and
Cheap & Cheerful Chinese Rig Programming using "Chirp"**

Do you have a contribution for Spectrum?

Any and all contributions, would be welcome.

I don't promise to publish everything I receive, but would be glad to receive suggestions or contributions.

Auckland VHF Group President's Column

Dave Dingley –ZL1TIA

Greetings All

I hope that your month has been better than mine.

Intro part 2

My early contact with things radio and electrical was when my father rounded up some bits and bobs he had acquired in his youth from my grandmother's place, and built me a "crystal set" complete with 'cats whisker' assembly and a pair of "Brandes" headphones.

Quite a few hours were spent listening to the 4 Auckland AM stations, and, occasionally, to East coast Australians after the Kiwis had gone to bed. That was usually about 10pm, but sometimes midnight.

The Aussies were also on midnight closing, so, conditions permitting, there were 2 hours of extra listening available.

Our next door neighbor at the time, worked for the "P&T", and seemed to have a reasonable supply of No 6 batteries and I managed to "find" the occasional torch bulb, so I had a bit of light and that started a fascination with lights, bits of wire and batteries.

During the August school holidays in 1956 the NZP&T Dept had a display in the Auckland Art Gallery. I don't have any recollection of the reason for it. It could have been marking some anniversary, but, more than likely was a recruitment effort of some sort.

More of an attraction to me as a youngster, it had flashing lights, things that went whirr, clatter and clunk. More to the point there were telephones attached to all of this. Even more interesting, if you picked up the handpiece on a 'phone, there was a dial tone. Then I found that if I dialed 11, a 'phone just around a corner would ring, and if someone answered it you could talk to them.

Three or four 'phones only entertain for a limited time, but there was one other, sitting on a table in the middle of the area.

It was a standard, old style, black Bakelite dial phone, mounted on a box about the size of a shoebox. No wires visible connecting the box to anything.

Check around, no one watching, pick up the handpiece ... Dialtone ... put it back ... sprung.

Adult standing along side me.

"Is there anyone home at your place?"

“Yes, my mum.”

“Do you have a phone at home?”

“Yes”

“Do you know the number?”

“Yes”

“Well pick up the handpiece and dial it. ... You know how ... don’t you?”

Dial tone 5 .. 4 .. 3 .. 5 .. 6 ... ring tones ... “Hello” ... “Hello Mum its me.”

While this was nearly 60 years ago, and I was told that ‘the box’ was connected to the Mt Eden exchange by way of the aerials on Mt Eden, it has left me pondering.

What was in that “Black Box” ?

Winter Reading Material

The Auckland Council on-line Library has 2410 magazine titles available to read for free!

To access these, you do need a library card and a password. If you don’t have a password or can’t remember it, the libraries website will take you through setting up a new password.

With this you can log in and navigate your way to the eCollections.

Next step is to select eMagazines and then click on OverDrive and Libby. Libby is a smartphone app.

OverDrive (no idea why its called that) is where the eMagazines are to be found. Go to “Subjects” and select “Tech and Gaming”. Three amateur radio titles are available: Radio User, Practical Wireless and CQ Amateur Radio. You can “borrow” the magazine and read it online. When finished you “return” it. You can borrow up to 35 titles at any one time.

The other “Subject” which may be of interest is Crafts – this has Model Engineer and several titles dealing with model railways.

Enjoy your Winter reading.

73

Vaughan ZL1VH

Minutes of the May General Meeting of the Auckland VHF Group Inc.

Held on Monday 8 May 2023 at the Clubrooms, Hazel Avenue, Mt. Roskill

Meeting started at: 1955

Present: 11 members as per the Attendance Book.

Visitors: Eugene Man, Stephen Wilson, Sam Dykes ZL1FBT

Apologies: NIL

Minutes of April General Meeting – President Dave ZL1TIA explained that as the Club currently did not have a secretary, minutes of the April meeting were not available.

General Business:

ZL1TIA called for any volunteers to fill the Secretary vacancy. There were no offers from the floor.

Remits: There were two remits to the NZART AGM and these had been published in Spectrum. ZL1TIA called for a show of hands those members present who were also members of NZART. A count recorded 6 members.

Remit 1: After some discussion on the pros and cons of a digital subscription, the remit was put to the vote: In favour 0, against 6

Remit 2: After a short discussion, the remit was put to the vote: In favour 0, against 6.

ZL1TIA asked who was attending the Conference at Kings Birthday Weekend. Only ZL1VH was attending. Asked if he would be the delegate for the VHF Group, ZL1VH agreed.

Granting the Delegate discretion – Moved ZL1TIA, seconded ZL1NEO, that the Delegate be given discretion when voting at the AGM. Carried.

There being no further general business, the business session closed at 2025 and the guest speaker for the evening, Simon Bridger ZL1THH was introduced by ZL1TIA.

Guest Speaker:

Simon ZL1THH gave a presentation on the design of a dual band 2m and 70cm Moxon antenna. The Moxon antenna is a simple mechanically robust two-element parasitic array antenna. It takes its name from Les Moxon G6XN who developed the original square design, making it a rectangle. The Moxon is favoured for use where a lightweight portable antenna is needed for field day, direction finding and emergency communications.

The Moxon can be visualised as a 2-element Yagi antenna with the ends of the driven element and reflector bent at right angles to form a rectangle. Slightly less than half the rectangle is the driven element and the other part, slightly more than half, is the reflector.

Because of the folded ends, the element lengths are approximately 70% of equivalent dipole length. The two-element design has modest directivity (about 2dB) but has a very high front-to-back ratio of about 25dB. The other advantage of the Moxon is that the feed point impedance is very close to 50 Ohms, so it can be directly fed with 50 Ohm coax cable.

By adding two additional parasitic elements to the 2m Moxon, a 2m/70cm design can be realised. The 2m Moxon basic structure also has a 3/2 wavelength resonance on 70cm band. However, it has three forward lobes which can be focused into a single lobe when an open sleeve element is carefully positioned for 70cm.

Simon showed two designs for dual band 2m/70cm. One built using copper foil tape on coreflute and one using aluminium welding rods on a pvc tube boom. This raised the question of what correction factor is needed when using copper tape rather than tube or rod for the antenna elements.

A Moxon antenna workshop is planned for Saturday 27 May at the Clubrooms for those who would like to try building one of these antennas.

Meeting closed at 2105, followed by a cup of tea/coffee and informal chat.

Thanks Margaret ZL1AYV for organising the supper.



KEN BOYCE ZL1TVQ / ZL1TD Silent Key

Born in Auckland on 19 May 1943, Kenneth Ronald (Ken) Boyce passed away peacefully at Auckland Hospital on Sunday 23 April 2023, after a short illness. A funeral to farewell Ken was held at North Shore Memorial Park Chapel, on Wednesday 10 May at 1.00pm.

Not much is known of Ken's early life. He spent some time in the Pacific on military service. He trained as an electronics/radio technician in the 50's along with Laurie ZL1ICU. His first job was with an electronics company in Mt Eden. Not enjoying the company he worked for, Ken left and spent some years working as an Ambulance Driver for St John's in Auckland. He re-entered the electronics work force and over the next 30 years, worked for a number of electronics and white goods manufacturers, reportedly becoming quite expert at troubleshooting problems with washing machines.

He got the travel bug and spent time in England and Europe, taking many photos of his travels. These were later put to good use with his amateur television activity. He also worked in London for about four years as an ambulance driver.

His mother recalls Ken was always a shy person. A very intelligent man, he never married and seemed to prefer his own company. He had a habit of "disappearing" for long periods of time and his family had no idea where to find him.

Ken gained his amateur radio licence in 1982 and the callsign ZL1TVQ while living in Orewa. In 1985 he moved to Lambeth Road in Mt. Eden where he lived for the rest of his life. In about 2002, Ken changed to his 2-letter callsign ZL1TD. His amateur radio interests mainly involved VHF and UHF operation, in particular amateur television and satellites, designing and constructing much of the equipment himself. A keen ATV'er, Ken's technical ability was put to good use when the Auckland VHF Group established an ATV Group and got the Channel 39 ATV repeater operational. Ken regularly hosted the Sunday ATV meetings where the group of amateur television enthusiasts spent time working on projects and exchanging ideas on how to solve problems with ATV and Satellite TV. Grant ZL1WTT recalls Ken was always helpful and assisted with his fuel costs for the many trips to the ATV site. He was also a regular visitor to the Musick Point Radio Group

Ken contributed to the regular Sunday night ATV transmissions on the Channel 39 repeater with slide shows of his overseas travels. A retiring and gentle man, Ken will be missed by those who knew him in better times.

Grant ZL1WTT/VE3XTV has written with an update on his activities. He has a new job and a new location at North Bay, some 300 km north of Toronto. See map. Grant is now working on the Canadian North Warning System. He writes that so far he has been lucky and has not had to go to some of the very remote sites. Other than the broadcast work he did in New Zealand, this new job is very much RF based, working on radar systems, designing, replacement and repairing models. He was told by his employer that they had a real hard time finding people with both RF and electronic skills as there is no real focus on it these days.

He is still doing work with ATV but as he is a long way from the nearest ATVer, has been doing a lot of work with NBTv, at 120 pixels x 12.5 frames. He plans do some testing with this new transmission mode for HF on 29 MHz (10m band), as it requires a few tens kHz of space to work in. It is very much a follow on from what Murray ZL1BPU and Con ZL2AFP did back in the 2000's, but with a few improvements, such as a dual transmission system that is a mixture of both digital and analog TV. He is in the process of developing a new digital compression system that is able to be sent out in an analog form without the requirement for error correction. It has not been easy to find a way to send moving pictures with colour, video and two sound channels with so many bandwidth limitations.



Background on the Canadian North Warning System - Spread across the Canadian North, the North Warning System (NWS) is a chain of radar stations that provides aerospace surveillance of Canadian and United States northern approaches. Using a series of long and short-range air defence radar sites, the NWS enables Canada's situational awareness of who and what is entering Canadian airspace from the north. This is a critical capability to providing credible deterrence to new and emerging threats to our sovereignty. It is also Canada's most significant contribution to the North American Aerospace Defence Command (NORAD). NORAD is a bi-national organization charged with the missions of aerospace warning, aerospace control, and maritime warning for North America. Canada has been a reliable partner in NORAD for more than 60 years.

The majority of the NWS radar sites (47 of the 50 sites) are located within three Inuit Settlement Areas across Canada's north. However, they are remotely monitored and controlled by NORAD from the Canadian Air Defence Sector, located at 22 Wing, North Bay, Ontario. As the NWS was constructed between 1986 and 1992, its radar capabilities are becoming increasingly challenged by modern weapons technology, including advanced cruise missiles and hypersonic weapons. After nearly 30 years in operation, it is time to begin investing in a new, more modern system in order to respond effectively to new and emerging threats. In order to ensure the NWS remains capable of supporting NORAD priorities, Canada will continue to invest in the operation and maintenance of the current NWS until a suitable replacement is put in place.

Results of the 2023 Low Band Contest – 1/2 April

VHF-UHF-SHF-EHF Contests, as administered by the Auckland VHF Group Inc; on behalf of all VHF groups, including all New Zealand radio amateurs and supported by NZART.

Overall Winner	Station	Points
	ZL2VS	306
	ZL1SWW	236
	ZL4SY	230
	ZL1DI	208
	ZL1GSG	94

Band winner	Station	Points
6 m (50MHz)	ZL2VS	12
	ZL1DI	3

Band winner	Station	Points
2 m (144MHz)	ZL2VS	254
	ZL4SY	185
	ZL1SWW	153
	ZL1DI	87
	ZL1GSG	40

Band winner	Station	Points
70 cm (432MHz)	ZL1DI	118
	ZL1SWW	83
	ZL1GSG	54
	ZL4SY	45
	ZL2VS	40

Greatest DX	Stations	Distance
6 m	ZL2VS – ZL50ALW	16 km
2 m	ZL2VS – ZL1SWW	413 km
70 cm	ZL1SWW -ZL1AKW	210 km

Active Stations (23 in total)

ZL1AKW, ZL1BK, ZL1DI, ZL1GSG, ZL1NL, ZL1PDT, ZL1RDW, ZL1SWW, ZL1THH, ZL1SKL,

ZL1WIS, ZL1XRZ

ZL50ALW, ZL2MF, ZL2SP, ZL2TGC, ZL2VS

ZL3AIC, ZL3JJ, ZL3OY, ZL3RC

ZL4ES, ZL4LV, ZL4SY

Operator Comments

The contacts were a bit slow but picked up on the Sunday. The weather wasn't great, I got soaked putting up the antennas and taking them down with high winds and light snow in between, with rain going sideways at times.

A reasonable turnout and some good DX was had. I only did the Sunday morning as the Saturday clashed with a friends birthday party. I left half of the 2 m antenna at home so only had 4 elements. My highlight was working Royden ZL2VS at 413 km. It was good to test the 3.4 GHz transverter as well with Greg, so good to activate that band.

I wasn't able to put up any decent antennas this time which limited how far I could work.

The weather conditions on Saturday were unpleasant but Sunday was great.

I ran out of time to go to Mt Ruapehu. I had a few FM contacts and made a short trip to Pukematekeo for a 3.4 GHz gear test with ZL1SWW. You never know, this might have been the last 3.4 GHz QSO...

It was the first time we've seen Digital Modes for a long time.

Thanks to all who participated.

Greg, ZL1GSG

Simon, ZL1SWW

Call	QTH	Altitude	Band	QSOs	Transceiver	Power	Antenna
ZL1DI	RF73JB	110 m	50 MHz	2	IC-705	10 W	Vertical Whip
Hilsborough Cemetry, Auckland			144 MHz	25	IC-705	80 W	Vertical Dual-Band
			432 MHz	23	IC-705	10 W	Vertical Dual-Band
ZL1GSG	RF73IC	50 m	144 MHz	15	IC-705	10 W	Vertical Dual-Band
Mt Albert, Auckland			432 MHz	13	IC-705	10 W	Vertical Dual-Band
ZL1GSG	RF73GC	333m	144 MHz	5	IC-705	10 W	Maspro Dual band
Pukematekeo, Auckland			432 MHz	3	IC-705	10 W	Maspro Dual band
ZL1SWW	RF73IR		144 MHz	23	IC-706Mk2G	30 W	4 el Yagi
Rodney Road Ridge			432 MHz	8	IC-706Mk2G	18 W	11 el Yagi
ZL2VS	RF70RB	448m	50 MHz	10	IC-706	100 W	Dipole
Mt Curl, Marton			144 MHz	29	IC-706	100 W	5 el Yagi
			432 MHz	11	FT-817	5 W	15 el Yagi
ZL4SY	RE43VO	10 m	144 MHz	12	FT-726	50 W	8 el Yagi
Kaka Point, Catlins			432 MHz	2	FT-726	45 W	6 el Yagi





**Auckland VHF Group Subscriptions are due for
2023-2024 year by the end of June 2023.**

Subscriptions are now be accepted for the 2023-2024 year, 1 July 2023 to 30 June 2024.

This coincides with the financial year for the group, which ends 30 June 2023.

Subscription update notice will be sent out in early June to all members who have not renewed by that time.

Note on Subscriptions:

- a. There is no increase in subscription for the 2023-2024 subscription year.
- b. All subscriptions terminate on 30 June.
- c. Your subscription will run for two-months after end of year to 30 August 2023 and then drop to the in-active membership list. (as per the constitution)

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 person then becomes a family member.
- Subscription prices are determined at the AGM preceding the year being implemented (7 months ahead)



**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



AUCKLAND VHF GROUP (INC)

SUPPORT THE EFFORTS OF THE VHF GROUP THROUGH YOUR
SUBSCRIPTION

SUBSCRIPTIONS FOR 2022-2023

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**

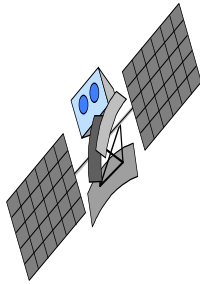
SEE ATTACHED MEMBERSHIP RENEWAL FORM (next page)

REMEMBER TO KEEP US INFORMED OF YOUR

EMAIL ADDRESS!

OTHERWISE WE CANNOT SEND YOU SPECTRUM!





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"/> Credit Card <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)		
Credit Card	Membership Link: https://aucklandvhf.org/product-category/membership-and-donations/membership/		
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 2022-2023

53.725	Repeater	Klondyke Road	Gwynne Rowe	ZL1AAR	\$50.00
144.253	Beacon	Nihotupu (Testing Clubrooms)	Terry Corin	ZL1BPA	\$50.00
145.625	Data Rptr	Klondyke Road	Terry Corin	ZL1BPA	\$50.00
145.650	D-Star Rptr	Klondyke Road	Terry Corin	ZL1BPA	\$50.00
146.625	Repeater	Klondyke Road	David Wilkins	ZL1MR	\$50.00
146.700	Repeater	Ruaotuwheua	Terry Corin	ZL1BPA	\$50.00
146.900	Repeater	Mt Puketutu Radio	David Wilkins	ZL1MR	\$50.00
432.253	Beacon	Nihotupu (Testing Clubrooms)	Terry Corin	ZL1BPA	\$50.00
438.175	D-Star Repeater	Klondyke Road	Terry Corin	ZL1BPA	\$50.00
438.500	Repeater	North Head	Franklin Branch	ZL1SA	\$50.00
439.850	Link TX to Kaimai	Klondyke Road	George Marr	ZL1TUJ	\$50.00
439.875	Ak Nat System Rptr	Klondyke Road	Soren Low	ZL1SKL	\$50.00
439.900	Link TX to Egmont	Klondyke Road	Franklin Branch	ZL1SA	\$50.00
439.950	Link TX to Brenderwyn	Klondyke Road	Terry Corin	ZL1BPA	\$50.00
1291.900	Repeater	217 Glenfield Rd	Franklin Branch	ZL1SA	\$50.00
439.700	DMR Repeater (Waitakere's)	Quinns Rd	Franklin Branch	ZL1SA	\$50.00
					\$800.00

Klondyke Tower Donations towards Maintenance

Name	Donation
Donations 2018 - 2021	\$9734.00

Donations 2022 –2023

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
Klondike Raffle		\$270.00
Papakura Radio Club		\$500.00

2022 –23 Year to Date	\$3275.00
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Total	\$15,604.00
Percent of Goal	15.60 %

Other Donations

Harry Pompe	ZL1BK	\$100.00
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For cluboom 50th celebration

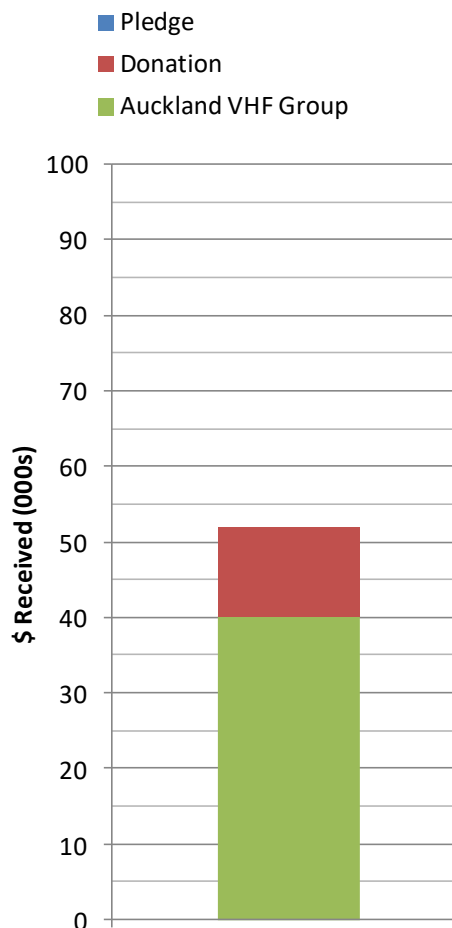
Target 100,000

Tower	63,245.00	Other	27,268.25
GST	9,486.75		

Total	72,731.75	Total	27,268.25
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Auckland VHF Group	40,000.00	40.00
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Klondyke Funding



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.

