

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



Investigation Equipment for Radio Inspectors

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Auckland VHF Group Inc.

Branch 66 NZART

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

Office	Name	Call sign	Work / Mobile	E-mail
President	Matthew King	ZL1YOT	022 649 3310	president@aucklandvhf.org
Vice President	Not filled			
Secretary	Brendon Reid	ZL1XXX	021 970 785	secretary@aucklandvhf.org
Treasurer	George Raffles	ZL1TUX	021 735 361	treasurer@aucklandvhf.org
Committee	Warren Harris	ZL2AJ	021 649 284	warren@zl2aj.com
	Dave Dingley	ZL1TIA	09 828 9394	mardayak@gmail.com
	Darryl Grange	ZL1TCI	021 123 7733	dgrange@ecohousing.co.nz
AREC Group Leader	Laurie Mathews	ZL1ICU	0274 817 463	perma@xtra.co.nz
Deputy Group Ldr.	Not filled			
ZL1BQ Trustee	Matthew King	ZL1YOT	022 649 3310	zl1bq@aucklandvhf.org
Head Repeater Trustee	Warren Harris	ZL2AJ	021 649 284	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
690 Manager	Dennis Seymour	ZL1UET	09 278 0381	690@aucklandvhf.org
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Account Reviewer	Basil Orr	ZL1TOW	021 867 367	
Webmaster	Terry Corin	ZL1BPA	027 697 4686	webmaster@aucklandvhf.org

Club Web Page: <http://www.qsl.net/zl1bq>

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

General Meeting Notice

Monday 11th November 2019 7.30pm,

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

The Evening's Topic:

Annual General Meeting and Guest Speaker

Yes, it's AGM time again. We plan to have a "short" AGM and hope that members will respond willingly when asked to stand for the executive and committee positions.

Following the AGM, we have a special guest speaker, Dr. Carl Laufer. Carl isn't a ham (yet), but he got caught up in the RTL-SDR craze as he was completing his PHD at Auckland University. He began writing about them, and selling them, on his blog at www.RTL-SDR.com, and soon discovered that the little SDR receiver dongles could stand some improvement. So he designed ways to make them work better, and contracted a Chinese manufacturer to build them with his modifications. He will be bringing the new RTL-SDR unit with 4 coherent (synchronised receiver channels) and his VHF DF software so show at our November meeting.

EVERYBODY WELCOME

We look forward to seeing you there

Supper will be served at the conclusion of the meeting.

Coming Events:

- Western Suburbs Market Day, Saturday 02 November, Rosedale School
- SDR Workshop at VHF Group Clubrooms, Wednesday ?? November
- Farmers Christmas Parade 24 November, Operator volunteers wanted.
- Field Day Contest Sat 07-Sun 08 December. All bands 6m and up.

Auckland VHF Group Presidents Report November 2019

Well, the aerials at the clubrooms have been reinstated by a good keen team with a cherry picker. We also swung an HF dipole up there for the SDR demo, which worked well. It will be removed shortly. Thanks Vaughan ZL1VH, Simon ZL1THH and Graham ZL1GH.

Then we were told of a problem on the Klondyke tower. Simon ZL1THH and I went up to take a look see. Several of the wooden 4x2 blocks between the cable trays and the tower have rotted away and the trays, with the coaxes, were blowing in the wind. The wood is untreated, because treated timber can react with the steel.

The cable trays, which also have some corrosion after 30 years, so we are investigating replacing them. This project is a higher priority than the tower painting, and needs to be resolved promptly. We will be organising a working bee at the Klondyke site later in November.



We took some hi res pix of the problem (around 100Mb) so we can zoom right in to look, then clambered up and lashed them in tightly with trailer ties and ropes, and came home. Those ties will only last a month or two if there are more of the fresh breezes that frequent the venue.

The Klondyke funding application, which I was stuck on, has been rewritten. It just needs some finishing touches and then photos added, and it's ready to go. I have had a battle with this. Not my area of expertise.

I'd like to thank all the helpers on the recent projects, particularly Vaughan ZL1VH who put out two editions of Spectrum while Peter ZL1UKG was away, organised the cherry picker, does the trading table at market days and spends hours every week doing things for the club.

I would really like to see you at the AGM. Our Secretary, Brendon ZL1XXX is standing down from this position, and a few more on committee would be good. We have had a good hearted crew this last year, so let's see who puts their hands up at the AGM. I'm happy to stand again if no one else wants to take it on.

Our guest speaker this month, Dr. Carl Laufer, is of particular interest to me because of my interest in Radio Direction Finding for Coastguard. We often have people calling up broken down, but not knowing where they are. We spend ages asking them if they can see the sky tower/Rangitoto/fast ferries/car ferries. Or if they face into the sun, where (on a clock face) are the islands they can see, and how far away are they. How deep is the water? Or, if its night time, how many flashes are any lights making. Occasion-

ally they have hit rocks or are taking on water, so time is crucial. A DF system in the Hauraki Gulf would be really useful in those situations.

That's it for now from me. I look forwards to seeing you at our meeting next week.

73

Matthew ZL1YOT

Notice of Annual General Meeting

Notice is hereby given that the Annual General Meeting of the Auckland VHF Group Inc., will be held on Monday 11 November 2019 at the Clubrooms, 30 Hazel Avenue, Mt. Roskill, commencing at 7.30pm.

The business of the meeting will be:

To receive the reports of Officers

To elect a President, Vice-President, Secretary, Treasurer, and four Committee Members for the ensuing year.

Appoint an account reviewer for the ensuing year.

Appoint an AERC Group Leader, Head Repeater Trustee and Editor for Spectrum magazine.

Receive members submissions and remits and deal with any relevant general business.

Please give serious consideration to offering your services to the club—we will have a number of vacancies to be filled come the AGM.

Auckland VHF Group Inc Minutes of the Annual General Meeting 12 November 2018

Attendance: as per the attendance book, including
ZL1MYL, ZL1UXB, ZL1UMK, ZL1AOX, ZL1UKG, ZL1PFB, ZL1DRB, ZL1VH, ZL1TCI, ZL1XXX, ZL1TAY, ZL1AYV,
ZL1TIA, ZL1TDG, ZL1GYM, ZL1ICU, ZL1GSG, ZL1YOT, ZL1TUX, ZL1TOW

Apologies: ZL2AJ, ZL1TOF

AGM Minutes 2017:

That the minutes printed in Spectrum be taken as read.

Moved: George ZL1TUX Seconded: Ian ZL1AOX Carried.

Matters Arising: - None.

President's Report:

Laurie ZL1ICU read his president's Report.

Moved: Laurie ZL1ICU Seconded: Dave ZL1TIA Carried.

Vice-President's Report:

As there was no Vice President for the year there was no Vice President's Report.

Secretary's Report:

No Secretary's Report Presented.

Financial Report:

George ZL1 TUX presented his Treasurer's report - the accounts not finished for the AGM but will be going to the reviewer by the end of November 2018. It needs one month's preparation when working fulltime. Commented that some groups allow 3 months, similar to NZART. Maybe shift the date into December or for the February Meeting. 40-50 members this year, 4 Life, 2 Honorary, 3 Families, 3 Associates. 20 subs paid so far. (2 months leeway for sub renewal).

George moved that his report be accepted.

Moved: George ZL1TUX Seconded: Vaughan ZL1VH Carried

Trading Table:

Sales are up. Components need replacing at a reasonable price as postage is often more expensive than the item.

Assets:

Find their whereabouts including licences, leases, agreements.

Nihotupu - now Auckland Council was Old Waitemata Council with the key held with the Police.

Klondyke - grants/activities/volunteers needed as the Group will need around \$100,000 maintenance. Repeater tower+ GST - in 2 stages to be done. Power - is a separate issue - coming out of the lease. \$2,000 maintenance/power/per customer.

Subscriptions:

An increase yes but prefer to keep same set fees now.

For next year 2019-2020 - let the committee re-assess midyear (3 years ago \$30 - \$45 increase).

10% increase CPI is sensible to review. A recommendation from the Committee to the AGM.

Motion: Increase the subscriptions to \$45-50 for ordinary members and that other subscriptions be increased by 10% for 2019-2020.

Moved: Basil ZL1TOW Seconded: Marlene ZL1MYL Carried by acclamation

George ZL1TUX moved his report be accepted.

Moved: George ZL1TUX Seconded: Vaughan ZL1VH Carried

Spectrum Editor's Report

Peter spoke to the meeting about content for articles, General and Committee Meetings to keep the Club informed.

Moved: Dave ZL1TIA Seconded: Darryl ZL1TCI Carried

AREC Report:

Laurie ZL1ICU presented his report. Not so much activity as Health & Safety regulations are making compliance difficult - Professionals in the Pink Ribbon Walk this year almost caused an incident at a road crossing. Cycle Race, St Patrick's Parade and the coming Farmers Santa Parade with Community Response, Community Constable, Neighbourhood support. Can also rely on other clubs if more manpower is needed.

Moved: Laurie ZL1ICU Seconded: Dave ZL1TIA Carried

Repeater Report:

6625 Not really any complaints except for location of user's stations

670 Ok - not deaf- only the user location problem again. ZL1VH Vaughan said there is no sensitivity issue.

690 Deaf - access is a problem. The pole since the fire has been lowered from 70 to 30 feet to the ground. Amateur accessibility is harder as there is more hills etc between them. Dennis ZL1UET has been unable to gain physical access to it either.

850 Final path is a metal staircase. Big/small filters, 19" rack mountable. Infoline moved up there.

Hospital information - tracking - Starship repeater moved to the main hospital but wasn't notified.

ZL1BO Callsign Trustee

Nominee	Moved By	Seconded by
ZL1YOT	ZL1VH	ZL1TIA

Spectrum Editor

Nominee	Moved By	Seconded by
ZL1UKG	ZL1XXX	ZL1TCI

Klondyke Tower Trustee

Nominee	Moved By	Seconded by
ZL1VH	Committee	

850 Manager

Nominee	Moved By	Seconded by
ZL1ICU		

Kaipara burst into 50MHz rubbish life. It's 2m repeater from Musick Point converted to D Star repeater - not on FM response but fine on D star with additions.

Moved: Laurie ZL1ICU Carried

Trading Table Report:

Check bulk stock and what is available. Restock.

Thanks to Hamilton, Western Suburbs and Group sales \$1000. Not too bad considering the lack of internet sales. Thank you Vaughan ZL1VH for his assistance with the Western Suburbs sales.

Moved: George ZL1TUX Seconded: Darryl ZL1TCI Carried

Election of Officers:

President

Nominee:	ZL1YOT	Moved By:	ZL1TCI	Seconded By:	ZL1VH
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Vice President:

Nominee:		Moved By:		Seconded:	
Committee to determine					

Secretary:

Nominee:	ZL1XXX	Moved By:	ZL1VH	Seconded By:	ZL1TIA	Carried by acclimation
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Treasurer:

Nominee:	ZL1TUX	Moved By:	ZL1VH	Seconded By:	ZL1TOW	Carried by acclimation
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Honorary Reviewer:

Nominee:	ZL1TOW	Moved By:	ZL1MYL	Seconded by	ZL1TCI
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Committee

Nominee:

ZL2AJ	Moved by ZL1ICU	Seconded by ZL1MYL	(ZL2AJ Warren Harris)
ZL1TIA	Moved by ZL1VH	Seconded by ZL1TCI	
ZL1TCI	Moved by ZL1XXX	Seconded by ZL1VH	

Head Repeater Trustee:

Nominee: ZL2AJ Moved By ZL1ICU Seconded by ZL1VH

AREC Section Leader:

Nominee: ZL1ICU Moved by ZL1TIA Seconded by ZL1AOX

Auckland VHF Group December 2018 General Meeting - Part 2

General Business:

Presentation to Margaret ZL1AYV Secretary from Laurie ZL1ICU President.

Klondyke

Laurie ZL1ICU looking at starting in stages - footings then metalwork. The Group can't afford to do it all at once. Farnsworth is going ahead before the meeting approval to start it.

Resource consent not required for the first footings but required for the second part of water for cleaning. Licence to occupy required for possibly two towers instead of one.

The present NZ owners Olsens are now thinking of selling the whole forest. One company interested in buying. Suggest to current owners our interest in a parcel of land where the Tower is. The two owners have been spoken with but they are not easy to contact. With Klondyke the Group don't want to commit to someone else who couldn't care less there at the moment. Could the Tower be pulled down and erected again elsewhere? Can't do it today - Write-off could be in the region of \$20,000. It was suggested that the Group go ahead and work on it with the money that we can afford - do it. ZL1VH agreed that the Group proceed with the maintenance on the corroded section and replacement fittings.

Basil ZL1TOW suggested buying the site - sub-divide - make sure the Group has \$100,000. A section for a house in the area is \$700,000. Basil ZL1TOW suggested approaching Charitable Trusts - ask for half the money \$40,000, now need help for the painting and the Group put up \$20,000 ourselves to get the other \$20,000 to assist.

Further suggestion - Register for GST - refund applied for could be worth \$15,000. It is important to register for GST before being invoiced - check the IRD website GST funding strategy in two weeks by phone.

Escalation of costs and antennas. Present prices- footings \$3,745 and metal pieces \$11,730 + GST. ZL1VH said it is prudent to do this then complete the painting of the 2m arrays.

Motion: The Auckland VHF Group Inc. proceed with the footing foundations and replacement of the corroded galvanised steel as covered by the recently approved funding.

Moved: Basil ZL1TOW Seconded: Dave ZL1TIA Carried.

Farnsworth - lead time with Transpower. Before Christmas need metal cut, drilled from plans, hot dipped galvanised. Formally give go ahead. No payment requested for the work done.

Basil ZL1TOW moved a vote of thanks to Laurie ZL1ICU for the work done for this Tower.

ZL1XXX - Painting sub-committee meeting. Monday 2 weeks ZL1XXX, ZL1TCI, ZL1TDG.

Annual Invoice for Repeaters due 30 November 2018. \$800.00 Vaughan ZL1VH will pay it by the due date so the licences will rollover. Repayment would be appreciated.

General Meetings - The Committee administer the Club with a brief report into Spectrum.

Moved: Basil ZL1TOW Seconded: Peter ZL1UKG Carried.

Meeting closed 10.12pm

Subscription Increase

In accordance with the motion passed at the AGM held on the 12th November 2018, subscriptions to the Auckland VHF Group will increase effective 1 October 2019, the start of our new financial year.

The motion was to update Full Membership to \$50.00 and all other memberships by 10%.

As a result:

The Full subscription will increase from \$45.00 to \$50.00.

The Associate Subscription will increase from \$40.00 to \$44.00.

Family members were \$10.00, possibly stay there.

George ZL1TUX our Treasurer is looking at trying to get invoices sent out to all members.

Auckland VHF Group Inc. Minutes for the General Meeting held on 14th October 2019 at the Clubrooms, Hazel Avenue, Mt Roskill

Meeting Start 7:30

Present: As per attendance book

Apologies: Nil

Moved that Minutes of the Last General Meeting as published in Spectrum be accepted

Moved: Peter ZL1UKG Seconded: Matt ZL1YOT Motion: Carried

Matters Arising from the Minutes

Nil

Correspondence In

NZART Break In

Amsat Journal

Correspondence Out

Nil

Finance Report

Nil

Klondyke update

No Update

Digital Presence Update - Brendon ZL1XXX

Run thru the trading table operation, adding and buying products, 400 products loaded, around 90 to go, Freight is correct, Rural Freight needs to be completed.

General Business

Merv spoke about the western suburbs radio sale – see the club calendar for details

Radio Inspector Presentation Kevin Everitt – RSM/MBIE

RSM are involved in three main areas, Solving Interference, Procure Licenses & Auditing.

Solving Interference:

This year 77 TV/BCI investigations, used to be over 1200 per year in analogue TV days.

121.5MHZ is a Personal Locator Beacon - homing frequency, one was found in the viaduct harbour.

Dect 6 is 1925MHz, can work in NZ if modified but unmodified jammed a Vodafone cellsite

Cellphone Boosters run on 832MHz, took out 6 Spark cell sites.

GPS GNSS Satellite Signals on 1575MHz can be jammed by GPS jammers on tradies vehicles which can interrupt plane landing systems.

Auditing

848 License Audits – going to sites, checking frequency, bandwidth and polarisation – good fun

333 Product Audits – not so much fun.

A warning if the reported location of the mast is greater than 10m, fine if over 400m

Looking at two way radios in stores in NZ, wireless devices,

Licensing

1887 Licenses granted last year, 2923 spectrum “instruments” registered like cellular, mobile data etc.

Signal Location and Direction Finding

Handheld directional antennae, loops, yagi, ridged horns, elevated masts,

Observe, listen, classify and measure the signal.

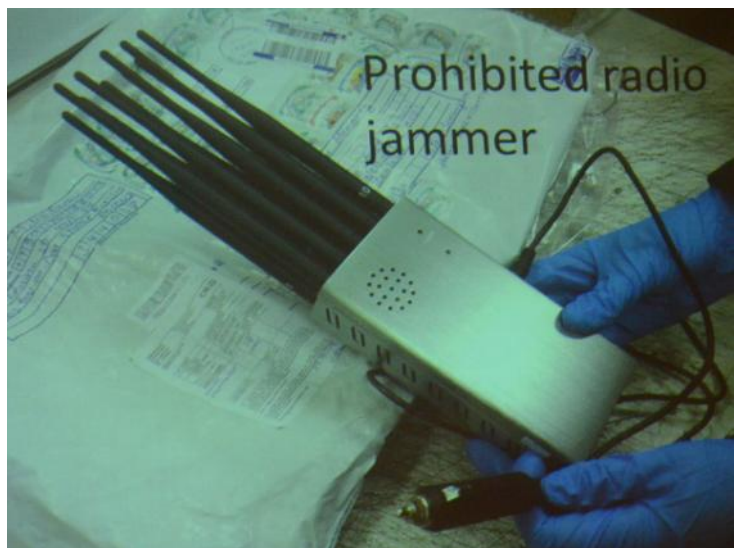
Interception

The signal has to be present, look at early clues, pay close attention to the interference report, travel to improve interception of the signal to increase “probability of intercept” Agile and spurious signals are the hardest to find. Kevin has created the **CHAPTER** system

Classify – sounds, signal, modulation, (ie QAM sounds different to QPSK) signal shape etc.



Kevin Everitt



Get **Height** – used to drive up Mt Eden, now closed, or get to open ground to improve signal
Azimuth with directional antennae.

Plan, head to signal maximum, veer off to the sides to confirm bearing 6db, you are ½ way there.

Triangulate

Examine surroundings, look for aerials on buildings, on cars, to reduce signal strength add in attenuation to reduce range so there is some variation.

Brendon Reid From notes made during the presentation

Next Meetings

AGM Monday 11th November

Meeting Closed 9:15pm

Microwave Update 2019

The North Texas Microwave Society have recently hosted the Microwave Update Convention in Dallas, Texas over 03—05 October 2019. It is the custom overseas to request from presenters a copy of their presentation in a “proceedings” record of the event. This year’s document is now available from their web site at <http://www.ntms.org> . You can download 470 pages from the 16 speakers totalling 75 MB.

The NTMS also supports the development of SDR radios and this year ran a workshop on the GNU Radio software and its application prior to the technology program began. With the recent SDR workshops run by Graham Hay this may also be of interest to VHF Group members.

Reinstalling the antennas following high wind stress breaking the plate holding the boom to the mast. Unfortunately a neighbour preferred it not to reappear. It is now being discussed with the Council.



Notes from Here and There

National System Interference

The National System has seen a recent recurrence of unidentified transmissions, bad language, music and siren noises. The trustees have narrowed down some of these noise sources to the Manawatu and Wellington areas. Members in those areas are being asked to listen on the local node input frequency (434.975 MHz for Wharite and 434.875 MHz for Belmont) to see if they can hear anything. Reporting this to one of the trustees will help with DF'ing the interferers.

It is important not to respond or react to the illegal operator as they are often doing their actions to create some type of response. The only response we want them to get is a knock on the door from the RI!

Thanks Q-Bit Sep 2019.

Kordia National System Award 2020

The Wellington VHF Group is running the 2020 Kordia National System Award and this time it is actually a National Systems award (the UHF National System and the DMR National System). More details to come, but the theme of the award is Telephone Exchanges.

The award will run from Saturday 21 December 2019 until Friday 31 January 2020. Points are awarded for working a station at an exchange, and points from activation of an exchange, as well as for the number of contacts made while activating an exchange. Contacts on the DMR system must be on the ZL talkgroup, and these contacts are worth 1.5 points compared to contacts on the analogue National System.

So start thinking about where the telephone exchanges are, and the Wellington VHF Group would love to hear any questions you come up with before the full contest rules are published. Questions can be sent to info@vhf.nz

Microwaves—"As Easy As 1—2—2"

Fancy trying your hand at building a transceiver for the 2.4mm Band? - That's 122 GHz in other words. Andrew Andersen VK3CV has designed a transceivers using I.C.'s developed for vehicle anti collision radar. Although only 0.5mW out, already VK amateurs using his design have achieved distances of nearly 70km on this band. You can find out more here:

<https://groups.io/g/VK2-Microwave-Users-Group/attachment/388/0/As%20Easy%20as%20122GHz%2007%202019.pdf>

The San Bernardino Microwave Society's October newsletter contains an interesting article on new ways of generating / synthesising microwave frequencies. The article takes a look at a few new products affordable to Amateurs with the stability and frequency accuracy for use in microwave systems. The newsletter can be found here: <http://www.ham-radio.com/sbms/newsletters/2019nswltrs/10sbms2019.pdf>

Aircraft Scatter propagation

A few amateurs are using commercial flights up and down New Zealand as metal reflectors

In the sky. Using the link <http://www.airscout.eu/> the software created by Frank DL2ALF embodying the formulae will predict the skip distance for given heights between ground stations where signal enhancement can take place. There is a "Download" link .PDF file to explain how to use his software.

Foxhunt ZLK316 – Prize: Self Satisfaction or maybe a chocolate fish. Your help needed!

We appear to have a local unlicensed Baofeng user broadcasting on at least one amateur frequency. Some of you may be aware of recent activity by persons unknown, using the 145.775 Musick Point repeater. I first heard some synthesised voice error messages being broadcast by the repeater some weeks ago. These have continued on random occasions. Recently I monitored the input to the repeater while these messages were being broadcast, and it appears that someone was trying random DTMF tones. In the same session, an alarm sound of the type Baofeng handholds produce, was also broadcast. I believe these transmissions came from the same source as random verbal transmissions have; from an operator identifying themselves as "ZLK316".

From the few transmissions I have heard from "ZLK316", it would appear that he is communicating with a cohort. Often only one side of the conversation is heard and it has been suggested that the persons making the transmissions have no understanding of repeater / split frequency operation; it may be that only one party has the repeater programmed and the other is operating on the repeater output frequency. If that is the situation, these people may have obtained the radios with some amateur resources programmed in - as programming a repeater split via the keypad on a Baofeng is not for the fainthearted...

I have been in contact with Radio Inspectors, and they are keen to take action if they can gather evidence. They have asked for our assistance. If anyone hears what they believe to be unlicensed activity on the repeater, if possible try and establish a bearing for the source and / or an estimate of signal strength for the signal on the input frequency. For example, I was able to partially receive a transmission on a handheld from inside my house – I therefore believe we may be looking in the East Auckland area (I live in Howick). Please forward any observations including any of:

Date & Time

Your location

Approximate bearing to signal (where possible)

Relative received signal strength and whether your antenna is external / internal etc

Observations – and Identifications – bogus call signs etc, subject matter, DTMF attempts etc

audio recording of suspect transmissions

And of course anything else that you think could be useful

Please forward any info to email: zl1dl@intelec.co.nz

Last Sunday, we attempted to engage the unknown operator in conversation in an attempt to extend his transmission time, to enable some form of tracking. Unfortunately, an amateur (outside of our club) advised the unknown that he would be in trouble, causing the unknown to curtail the conversation. Our only chance of tracking is when we have transmissions, so please keep this in mind.

While it may be a big ask to track these people down – the impossible is definitely more fun than the mundane! Cheers, Dave

Northland North-Shore Contest

Contest Rules 2019

SPECIAL NOTE: Contest extended to participants in all parts of the Auckland Unitary Council area.

Date: SATURDAY NOVEMBER 16th 2019: **Time:** 2000 - 2100 (8pm to 9pm) in TWO ½ hour periods

Bands: 80 Metres (3.58 to 3.62MHz suggested)) and 2 metres - Both Simplex and via certain repeaters. (A possible FM Simplex Calling = 146.475)

ELIGIBLE STATIONS: All stations must have a single operator who MUST be a located in one of the following NZART Branch areas:

AREA 1: Br 10: Franklin, Br 65: Papakura: Br 21: Manukau
 Br 03: Western Suburbs Br 02, Auckland Br 86: Musick Point
 Br 90: Waiheke Island Br 29: North Shore Br 80: Hibiscus Coast
AREA 2 Br 78 Far North, Br 84 Bay of Island Br 28 Whangarei,
 Br 71 Rodney

NOTE: Br 66: AK VHF Group operators should use the Branch Number of the area where they reside.

Contacts within or between these Branch areas are the only ones eligible for points.

Mobile/portable operation is permitted. Twice Running QSOs are permitted.

QSOs: Stations may contact each other in each half hour period in up to 3 different modes

(i) 80metres phone (ii) 2metres phone direct (simplex) (iii) 2metres phone via repeater.

REPEATERS: In mode (iii) only the Far North (710), Bay of Islands (675), Whangarei (665), Brynderwyn (560) and Rodney (730) repeaters are eligible for contacts.

SCORING: Points for each contact (where the stations are located):

	Within Area 1	Within Area 2	Across Area1 & Area 2 boundary
80m Phone	1	1	1
2m Simplex	2	5	5
2m via Repeater	2	2	2

Note: the higher points for 2m simplex in Area 2 is to recognise the disadvantages of distance and the reduced number of available stations in Area 2.

CONTEST EXCHANGE. RS report + 2 digit serial number + Branch e.g.59/01/28.

LOGS TO SHOW

Date, time, BAND/mode (e.g. 80m Phone; 2m repeater etc), number sent, number received, points claimed.

A declaration that the contest rules have been complied with and of course, include your Callsign and Name.

Legible logs please

Logs to reach Contest Manager
 Northland/North Shore Contest
 P O Box 830
 WHANGAPARAOA 0943
 By 5:00pm Monday 16th of December 2019
 (e-mail logs accepted (and preferred) to kdbirt@gisborne.net.nz)

The club of the winner has the honour of organising the 2020 contest.

Only one hour of your time, two half hour sessions, quick and easy. Pick the modes that suit you best, forget the TV and let's hear every branch on the air in our own local contest.



**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 Laurie Mathews ZL1ICU.

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:

Laurie Mathews ZL1ICU 634 5130 0274 817 463 perma@xtra.co.nz

AREC News:

Farmers Parade - 24 November. Operators wanted to assist with this event.



AUCKLAND VHF GROUP (INC)

SUPPORT THE EFFORTS OF THE VHF GROUP THROUGH YOUR SUBSCRIPTION

SUBSCRIPTIONS FOR 2020

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 **\$50.00**

ASSOCIATE MEMBERSHIP **\$44.00**

FAMILY MEMBERSHIP ADDITIONAL **\$10:00**

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:

When I find it, I don't need it. When I need it, I can't find it.

NAME	Mr/Mrs/Miss/Ms	Christian or given	Surname
Address			
		Phone: (home)	
		Phone: (work)	
		Phone (Cell)	
		Email	
Occupation:		Callsign	
NZART Member		Branch assigned	
AREC Member		Branch assigned	
Category			To pay
Membership	Full	\$50:00	\$
New/Renewal/ Change	Associate	\$44:00	\$
Receipt #	Family Add	\$10:00	\$
Donations	Auckland/Klondyke		\$
	Brynderwyn		\$
	Data/D-Star		\$
	IRLP		\$
	Other		
	Beacon / Repeater / Links / Licence donations		\$
		Total	\$
Payment			
Circle one -->	Cash	Cheque	Internet deposit
Invoice/Statement re- quired	Please Advise Treasurer		
Internet	<p>To account ASB 12-3011-0830580-00. Account name is: Auckland VHF Group Inc. Include your Name/Callsign and Sub or RepeatDon etc in particulars field, for us to track. To sponsor a specific repeater, nominate the repeater and a backup repeater for the donation, in case the initial choice has been taken. The sponsorship is a minimum of \$50.00 which covers the licence for a year. Note: Please return the Form to the email or postal address given below to allow us to update our records. (Please Note the Account Number and email may have changed from last year) Email to: treasurer@aucklandvhfgroup.org.nz</p>		
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 last Monday of the month.		

The Auckland VHF Group Inc Branch 66 NZART

gratefully acknowledges the sponsorship of Branch 66 Beacons, Repeaters and Fixed Links licence fees and the Group's repeater operations by the following radio amateurs and NZART Branches for 2019

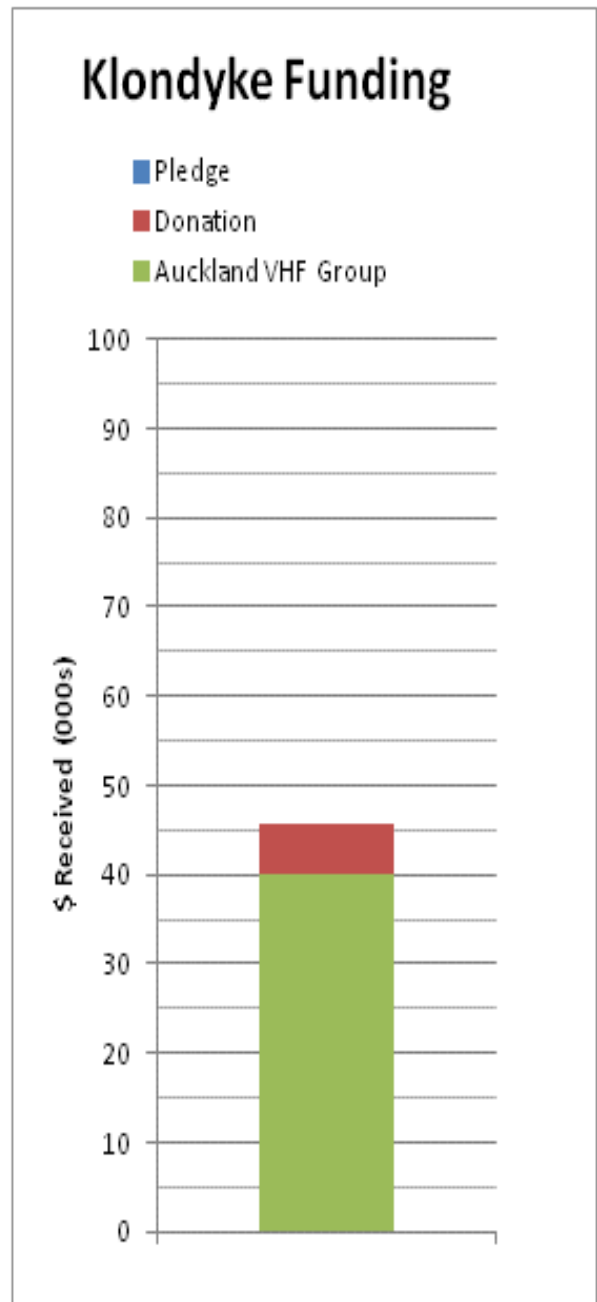
<u>Repeater frequency</u> and name	Repeater location	Sponsorship advised for 2019	Amount paid
53.725 Repeater	Klondyke Road	Gwynne Rowe	\$50
144.253 Beacon	Nihotupu	Not operating	
145.625 Data Rptr	Klondyke Road	Not operating	
145.650 Dstar repeater	Klondyke Road	Laurie Mathews	\$50
146.625 Repeater	Klondyke Road	Laurie Mathews	\$50
146.700 Repeater	Ruaotuhenua	Dennis Thorton	\$50
146.900 Repeater	Mt Puketutu Radio	David Wilkins	\$50
432.253 Beacon	Nihotupu	Stability testing	
438.175 Dstar repeater	Klondyke Road	Laurie Mathews	\$50
438.500 Repeater	North Head	Not operating	
439.850 Link Tx to Kaimai	Klondyke Road	Franklin Radio Club	\$50
439.875 Ak Nat Sys Rptr	Klondyke Road	Franklin Radio Club	\$50
439.900 Link Tx to Egmont	Klondyke Road	Franklin Radio Club	\$50
439.950 Link Tx to Brynderwyn	Klondyke Road	Franklin Radio Club	\$50
1291.9 Repeater	217 Glenfield Rd	Soren Low	55.00
		Total Sponsorship	\$555
NZART Inc: Branch/Personal donations			
Manakau Branch			\$100
Papakura Radio Club			\$500
Helicopter Trust (Brynderwyn)			\$360
Auckland Branch			\$100
Compass Communications			\$2,760
	Donations		\$3,820
Current as at 05/05/2019			

The Auckland VHF Group, Branch 66, would like to thank all those who came forward to sponsor the licence fee for our Beacons, Repeaters or Fixed Links for the year 2019 or donate towards the Group's repeater Operations.

Target 100,000

Name	Donation	Pledge
Western Suburbs Radio Club	200.00	
Michael Sheffield ZL1ABS	500.00	
Ross Glover ZL1BGB	50.00	
Andrew Brill ZL1COP	100.00	
Martyn Seay ZL3CK	50.00	
Aaron Pelly ZL1FAT	10.00	
Cris Hodgetts ZL1CLH	20.00	
David Crosier ZL1THF	20.00	
Ann Walker ZL1BFB	20.00	
Bruce Churcher ZL1BLB	20.00	
Klondyke Raffle @ Western Suburbs	160.00	
Dennis Thornton ZL1TAY	50.00	
George Raffles ZL1TUX	100.00	
Keith Dix ZL1BQE	100.00	
Franklin Radio Club ZL1SA	800.00	
Terry Corin ZL1BPA	1000.00	
Keily Peterson ZL1KM	150.00	
Gilbert Eckroyd ZL2EK	100.00	
David Blackett ZL1AD	50.00	
Ian Sexton ZL1PZ	500.00	
Auckland Branch 02 ZL1AA	100.00	
Ralph & Rosemary Boshier	40.00	
Nick Emery ZL1BOP	50.00	
Kelvin McLean ZL1AKM	20.00	
Soren Low ZL1SKL	100.00	
North Shore Radio Club	1500.00	
Brendon Reid ZL1XXX	20.00	
Auckland Branch 02 ZL1AA	500.00	
Gary Ball ZL1FAB	20.00	
Total	6350.00	-
Percent	6.35	0.00

Tower	63,245.00	Other	27,268.25
GST	9,486.75		
Total	72,731.75	Total	27,268.25
Auckland VHF Group	40,000.00		40.00



TRADING TABLE

Currently our Trading Table is only open on meeting nights.

Resistors: We are no longer going to stock the standard 1/4W carbon film resistors on the Trading Table. Any members wanting to stock up on resistors before they are otherwise disposed of – come along to the next meeting and help yourselves.

The shelf space currently taken up by resistors will be used to display other Trading Table stock items. Watch this space for details.

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

Back in Stock — SO239 UHF Adaptor:

Just what you need to make up a mobile antenna. SO239 socket and mounting nut. The tube on the side is a screw-in fit for RG58 coax cable. Just strip the outer sheath off and allow about 6 to 7mm of centre conductor, screw the RG58 into the side of the adaptor and solder the center conductor to the centre pin of the fitting.



Coax Adaptors:

Thanks to a recent donation we have a range of assorted coaxial adaptors available at only \$3.00 each, but be in quick!



Capacitors, Transmit:

Capacitors, Metal Clad Mica (Unelco, Semco)

\$2.20 each

Values (in pF):

Or 10 up for \$2.00 each

3.9, 4.7, 6.8, 10, 12, 15, 20, 22, 24, 27, 30, 33, 34, 47, 51, 62, 82,

100, 120, 130, 150, 220, 240, 300, 360, 680pF

Most are rated 350V working $\pm 5\%$ tolerance.

Similar to illustration, tab does not have hole:



Resistors Surface Mount:

Packed in bags of 10 for \$0.50 bag

Most are 1206 size: 2.7 ohm, 4.7 ohm, 22 ohm, 49 ohm, 56 ohm, 68 ohm, 82 ohm, 100 ohm, 180 ohm, 270 ohm, 330 ohm, 390 ohm, 470 ohm, 510 ohm, 680ohm, 820 ohm, 1K ohm, 2k2 ohm, 3k3 ohm, 5k6ohm, 10K ohm, 68K ohm, 100K ohm.

Quartz Crystals:

3.579545 MHz HC18/U wire ended holder		
4.194304 MHz HC18/U wire ended holder	[F.4.1]	\$1.00 each
4.1952 MHz HC18/U wire ended holder	[F.4.2]	\$1.00 each
4.33618 MHz HC18/U wire ended holder		\$1.00 each
6.000 MHz HC49/S SMD package 20pF load capacitance	[F.4.3]	\$1.00 each
8.192 MHz HC18/U wire ended holder		\$1.00 each
8.867238 MHz HC18/U wire ended holder		\$1.00 each
13.875 MHz HC18/U wire ended holder	[F.4.5]	\$1.00 each
14.31818 MHz HC18/U wire ended holder. Rakon J30G-4H spec	[F.4.6]	\$2.00 each
14.7456 MHz HC49/S SMD package	[F.4.7]	\$1.00 each
17.472 MHz HC18/U wire ended holder		\$1.00 each
18.432 MHz HC18/U wire ended holder	[F.4.8]	\$1.00 each
20.0000 MHz HC49S SMD package P/No.7D20000183BSAF25Q3	[F.4.9]	\$1.00 each
24.567 MHz HC18/U wire ended holder		\$1.00 each
45.600 MHz HC18/U wire ended holder		\$0.50 each

Miscellaneous:

Battery clip for 9V (PP9) type battery	[F.2.5]	10 for \$1.00
RJ-12 sockets, 6-way PCB mount	[E.6.10]	20c each
TO-3 Mica Washer and insulating bushes	[S.9.9]	50c bag of 20
LED Holder panel mount type	[S.7.10]	50c bag of 10
Test point sockets pcb or chassis mount	[F.2.4]	10c each
Brass rivets, ideal for through-hole connections	[F.2.6]	50c/100
Cable retainer clips black plastic fits 25mm square boom	[F.2.7]	50c each
Plastic standoff mounts for PCB mounting	[F.4.8]	10c each
Handle, Grey Plastic, for equipment enclosures	[F.2.1]	\$1.00 each
Crystal socket PCB mount for HC25/U crystals	[F.2.10]	10c each
Crystal socket chassis mount for HC6/U crystals	[F.2.9]	10c each
Rubber switch boot (waterproof) 15/32"	[F.2.7]	50c each

Radio Frequency Transistors

ATF55143	Low noise E-PHEMT 0.6dB noise figure. Low noise amp for frequencies between 450MHz and 6GHz. SMD package SOT343 (4 lead). [S.case]	\$1.00 each
MGF1302	Low noise GaAs FET Nf = 1.4dB @ 4GHz, 4dB @ 12GHz. [S.case]	\$5.00 each
BF199	NS 25V 25mA, 500mW ft = 550MHz TO92[S.4.14]	\$1.00 for 10
BF494	NS 20V 30mA Low noise mix-osc/IF amp TO-92 [S.4.15]	\$1.50 for 10
BFR91	NS RF Amp. 5GHz 1.9dBnf @ 500MHz [S.case]	\$2.00 each
MFE121	Dual gate N-MOSFET 20V 5mA VHF Amp BF352 equiv. [S.case]	\$0.50
MPS5179	NS TO92 12V 50mA 200mW ft 2000MHz Nf 5.0dB [S.5.13]	\$0.50 each
	RF Transistor. Use in UHF/VHF amplifiers with collector currents in the 100 uA to 30 mA range, and in low frequency drift, high output UHF oscillators.	
BFG67	NS 8GHz 50mA rf amp/preamp SOT143B package [S.case]	\$1.50 each
MPS5172	NS 25V 100mA Ft 120MHz [S.7.5]	\$0.10 each
MPS6507	NS, VHF Mixer, 20V, 100mA, Ft 700MHz [S.5.8]	\$0.20 each
C1-12	NS RF Pwr 400 – 500 MHz 1W 12.5V [S.Case]	\$1.00 each
C3-12	NS RF Pwr 400 – 500 MHz 4W 12.5V [S.Case]	\$2.00 each
MRF237	NS RF Pwr. VHF 4.0W 12V TO39 [S.5.13]	\$3.00 each
MRF449	NS RF Pwr. 2-30MHz 30W 12.5V stud mount [S.Case]	\$10.00 each
MRF559	NS RF Pwr. 806-960MHz 0.5W 12.5V [S.5.13]	\$0.50 each
MRF628	NS RF Pwr 400 – 500 MHz 1W 12.5V [S.Case]	\$2.00 each
MRF904	NS RF Small signal amp. Ft 4GHz 15V TO206 [S.5.13]	\$3.00 each
SD1144	NS RF Pwr 400–550 MHz 2W 12.5V stud mount [S.Case]	\$3.00 each
2N5945	NS RF Pwr 400–700 MHz 2W 12.5V stud mount. [S.Case]	\$3.00 each
2N5946	NS RF Pwr 400–550 MHz 10W 12.5V stud mount [S.Case]	\$4.00 each
2SC908	NS TO39 RF Amp 1W @ 500MHz 13.6V [S.5.13]	\$1.00 each
	Designed as driver and RF power amplifier. 0.5 to 0.8W output at UHF land mobile band. Gain 15dB (Vce=6.0V, Ic=5mA, ft=2000MHz)	
3SK45	Packaged as ECG221, dual-gate N-channel MOSFET for vhf amp and mixer applications. [S.6.16]	\$0.75 each
3SK192GR	Dual-Gate MOSFET 15V 30mA(max) [S.7.13]	\$1.00 each
2SC5488	NS 30V 70mA low noise rf pre-amp [S.6.4]	\$0.10 each

Recent additions:

BST70A	N-Chan DMOS 80V 0.5A TO92 switch	\$0.20 each
PMBT3904	NPN 40V 200mA switching transistor SMD	\$0.50 for 10
PMBT3906	PNP 40V 200mA switching transistor SMD	\$0.50 for 10