

The Official Newsletter of the Auckland VHF Group Inc. Spectrum



Various “Gems” were found by foragers at the
Western Suburbs Market Day
You had to be there !

2017 Annual Reports — see page 4
The 2016 AGM meeting Minutes — see page 9



Auckland VHF Group Inc.

Branch 66 NZART

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

Office	Name	Call sign	Home	Work / Mobile	E-mail
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Vice President	Dave Dingley	ZL1TIA	828 9394		marday@?????.co.nz
Secretary	Vacant				
Treasurer	Vacant				
Committee	George Raffles	ZL1TUX	626 6944	021 735 361	graffles@xtra.co.nz
	Brendon Reid	ZL1XXX			brendon@aa.net.nz
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	Greg Storz	ZL1GSG	849 2878		
	Darryl Grange	ZL1TCI	817 4553		
AREC Section Leader	Laurie Mathews	ZL1ICU	634 5130	0274 817 463	perma@xtra.co.nz
Deputy Section	George Raffles	ZL1TUX	626 6944	021 735 361	graffles@xtra.co.nz
ZL1BQ Trustee	Vaughan Henderson	ZL1VH	418 1071	021 844 804	z1vh1@gmail.com
Repeater Trustee	Vaughan Henderson	ZL1VH	418 1071	021 844 804	z1vh1@gmail.com
Klondyke Managers	ZL1VH / ZL1BK				
690 Manager	Dennis Seymour	ZL1UET	278 0381		
850/670 Manager	Vaughan Henderson	ZL1VH	418 1071	021 844 804	z1vh1@gmail.com
ATV/Beacons					
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Webmaster	Terry Corin ZL1BPA				z1bq.webmaster@gmail.com
Club Web Page:			http://www.gsl.net/zl1bq		
ATV Interest Group:			http://www.gsl.net/zl1qf/atvug/ATVusers.html		
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
peterlov@xtra.co.nz

Auckland VHF Group (Inc) Branch 66

General Meeting Notice

Monday 13th November 2017 7.30pm,

At the Hazel Avenue Club Rooms

(Located on left at the end of Hazel Avenue)

The Evenings Subject:

“Annual General Meeting”

Yes, it's that time again. The Annual General Meeting of the Auckland VHF Group Inc., will take place at 7.30pm, followed by a short General Meeting.

EVERYBODY WELCOME

VHF Field Day Contest:

All bands 6 m and up. Saturday 02 December and Sunday 03 December 2017.

Operating periods are Saturday 5 pm to 11 pm, and Sunday 7 am to 1 pm, NZ local time.

The contest rules are available on the NZART website:

<http://www.nzart.org.nz/activities/contest-rules/rules-vhf-and-above/>

All contest logs should be sent, to arrive within two weeks, to:
VHFcontest@nzart.org.nz

Coming Events:

- Monday 11 December—VHF Group Xmas Social. 7.30pm at the clubrooms, Hazel Avenue. Please bring a plate to help with supper.

Annual Reports for 2017

The President's Report — 2017

Greetings.

2016-17 has been a year of ups and downs.

The year started with difficulty in electing officers. Then the unexpected death of Doug Cooke left a big gap in our executive. We have managed to keep functioning without a President, Secretary, Treasurer and I must thank George ZL1TUX for keeping minutes and more recently checking our finances.

Merv ZL1SK deserves thanks also – Merv built up spreadsheets of our incoming and outgoings but unfortunately we had, and are still, having problems with getting electronic information from ASB. Merv has been unwell lately and I wish him a speedy recovery.

On the brighter side of things our dealings with the Puketepapa Local Board and Auckland Council have been fruitful recently. After some 18 months of discussions and negotiations our Ground Lease has been renewed with a "Licence to Occupy for 10 years" and "Right of Renewal for a further 10 years" at a better rate than we had.

The Clubrooms have been on this site for over 45 years and recently we found that we had co-inhabitants in the shape of "borer" in some of the ply panels. Their (the panels) replacement is an ongoing project and my thanks to the team that have been working on this. On a similarly positive note the Puketepapa Board are looking at the Arthur Faulkner Reserve with a view to improving facilities and drainage, and have been discussing the improvement of our car parking and access. This will enable us to plan and hopefully implement improvements to our access to the clubrooms for the less physically able.

On a purely personal note, Margaret and I have spent the last 6-7 months in a state of uncertainty with the sale of our residence of 45 years, and negotiations with overseas buyers. This is basically complete but we have a lot of "sorting" to do. We have been the custodians of family "treasures" which now means our daughters have to make decisions as to which pieces of their "history" that they wish to take responsibility for.

This has been exacerbated by our ISP (Vodafone) making quite a mess of our phone and internet. This has included periods of no phone at either address and email passwords being cancelled without any information or reason. I had a survey from them – I rated them very low – one's and two's out of 10 and no, I would not recommend Vodafone at the moment.

My health has been somewhat variable over the last 12 months and for this reason alone I will not be seeking election to any office in the club for the next year. I hope that I will not be greeted by people shuffling and staring at the floor when it comes to the Election of Officers.

Dave Dingley Vice President

AREC Report 2017

2017 provided fewer opportunities to take part in community orientated events due to health and safety requirements. However it has been an eventful year. Close contact with Auckland Civil Defence is still being maintained, starting with a meeting with Civil Defence Emergency Management to discuss requirements for a more resilient Auckland to get through an emergency.

Saturday 11th March arrangements were made to attend the Onehunga festival however this was cancelled due to stormy weather. 12th March Members attended to help with St Patrick's parade but was also cancelled due to a weather bomb arriving just before the parade was to start.

Highlight of the year was the World Masters where we were given the opportunity to help with the communications for the World Masters Games. Our job was to cover the Orienteering event at Woodhill Forest. This was a more difficult event to organise due to the location and the requirements of the orienteers along with the difficult location as well. It was a 4 day event. Thanks must be given to all volunteers who helped out. Thanks to Ivan Nelson who allowed us to use his Kaipara repeater on the first day and Branch 03 for the loan of their portable repeater for the other days. We had help of volunteers from branches 02,03,10,29,65 89 and of course branch 66. Thanks again everyone. The games organisers and competitors were full of praise for your efforts.

CRG radio checks are done weekly to Auckland CDEM

5th July we set up a stand at, Royal Oak Mall promoting Civil Defence and AREC.

6th July Helped out with Americas cup parade.

9th August I gave a talk to Massey Henderson Board and CRG groups on the set up of an emergency response centre and another for the Whau district a week later.

November 26th will be The Farmers Parade. Branch 66 AREC is dedicated to help out with civil defence and community events and this has resulted in part to the favourable treatment given to us by the City Council.

Laurie Mathews

Section Leader Branch 66 AREC

Repeater Report 2017

670 Repeater

This repeater is located in the Airways Corporation building at Ruatowhenua and gave little trouble during the year. One site visit was made in August to check the equipment, coax feedline and antenna. No issues found. Airways Corporation have implemented a site safety plan and we are required to sign off on this when visiting the site and completing the visitor register. The safety plan is attached to the visitor register and is to be read on each visit.

This repeater continues to be used for Internet Repeater Linking (IRLP). Ian ZL1VFO provides the node for this facility and it is enjoyed by a wide group of users. As a sideline, the IRLP facility has significantly increased the usage of this repeater – always a plus!

690 Repeater

This repeater is located in Telecom premises on the Bombay Hills. The repeater gave good service throughout most of 2017 but currently has a damaged antenna. This has resulted in the repeater being

“deaf” to the south. A site visit is needed to investigate/repair or replace. Thanks to Dennis ZL1UET who keeps a quiet ‘eye’ on this site and the equipment for us.

850 Repeater

This is currently off the air. Site negotiations with the Department of Conservation to continue to site the equipment at North Head came to an unsatisfactory conclusion during 2017, complicated by the fact that the land is now owned by local Iwi.

We are currently trying to get approval to relocate this repeater to the roof of the lift tower block on Auckland Hospital. Hospital management are reviewing all RF services and also have some challenges to clear out asbestos based cladding materials. Until these items are resolved, we are unable to proceed with this installation.

DMR UHF Repeater

This repeater was established in 2015 was part of the national AREC digital mobile radio network. Frequency is 439.7 MHz with a -5 MHz split. Initial teething problems with the internet connection and an antenna failure in 2016 are now resolved and this repeater has worked well through 2017. Unfortunately it sees very little activity from Auckland AREC, but remains available for use as required. Coverage is primarily the Auckland CBD but can be accessed from the North Shore and southern parts of the central city area.

Brynderwyn Site

Although owned by the Group, the majority of the maintenance at this site is undertaken by members of Whangarei Branch, in particular Don Ewen ZL1DTE and Peter Aitken ZL1TVP.

From this location the 560 2m repeater gives excellent coverage of S.H.1 and surrounding districts. The National System link operates through this site and on to the Bay of Islands. An Auckland Regional Helicopter Trust air-band repeater is located at the site. During 2017 members of the Whangarei Branch gave the outside of the equipment building a clean down and new coat of paint and attended to some cracked plaster around the base. Our grateful thanks to members of the Whangarei Amateur Radio Club for their assistance.

Klondyke Site

This remains the Group’s largest site with the National System links to Egmont, Brynderwyn, and Kaimai, the 6652 Repeater and 9875 National System access. This site also has the 2m and 70cm D-Star repeaters, plus a 6m repeater. A new repeater controller produced by Richard Gamble ZL1BNQ was installed on the 6625 repeater during 2016 and is working well.

The repeater controller on the National System, controlling the local UHF repeater as well as the links north, south and east remains a potential weak link. This is one of the original RCA 1802 micro based controllers and if it fails, is unrepairable. A new controller is in development but is more complicated due to the number of transmitters/receivers which have to be switched. Hopefully 2018 will see this unit replaced with a new model.

The remote controlled HF system at Klondyke is working but suffers from a high local noise level due to switch-mode power supplies in the equipment building. A working bee on site in early April identified the main culprit and work is underway with our tenant Compass Communications to get it replaced.

Only one site visit on Tuesday 4 April was achieved during 2017. Due to poor weather on the day, no tower work was attempted. It is expected that the tower will need re-painting by 2018 (last painted 15 years ago) and the Group should budget for this.

We are now hosting Auckland Coast Guard at the site with both VHF and UHF transmitters and linking equipment.

My thanks to Harry ZL1BK, Greg ZL1GSG and Peter ZL1UKG for assistance at site in 2017.

Beacons

The Group holds licences for a 2m beacon and 70cm beacon which are located at the Nihotupu site in the Waitakere Ranges. The antennas for these beacons and the wooden cross arm they were mounted on came down during a winter storm and have yet to be replaced. It is likely that new coax feed lines will also be required. The beacons have not been on the air for over two years as new beacon transmitters have been built and are on long-term soak test to ensure they are both stable and reliable. Another project for 2018.

Vaughan Henderson ZL1VH
Head Repeater Trustee

Acting Treasurer's Report 2016-2017

With the passing away of our treasurer (Douglas Cooke) during the year, I have taken over as acting treasurer, looking at the books and doing the accounts for year end. I would like to thank Merv Thomas (ZL1SK) for the assistance in sorting out the initial accounts.

At present there are still issues with accessing bank accounts and other information/services. Therefore the 2017 accounts are still being completed, and with invoices and receipts. These should be completed by end of November and then sent for review with the honorary reviewer. I plan to have a summary at the AGM.

The Trading Table income for 2016-2017 was a good result with sales generated from equipment sales, clubroom sales but Trade Me items sold on have been minimal as this now requires a person to put on the Web. Long term should the VHF Group create their own account?

Donations help to keep the Klondyke Repeater facilities operating. The main cost again was power which we have recovered from Transpower who share our connection. Transpower has now relocated from the location, and that source of account has now gone. Other Klondyke users, Compass Communications and Dove Communications may assist in recovering these costs.

We wish to thank Laurie ZL1ICU and Marline ZL1MYL for their continued donation towards the costs of the internet connection installed at Klondyke and operation / use and costs associated with the D/Star repeater also located at Klondyke.

There has been no progress in resolving a site agreement for Klondyke.

I am expecting considerable costs to be incurred in the future including legal fees at Klondyke, and the possibility of high annual rents. We need to keep our reserves intact because there is also the possibility of either having to pay back-rents covering a number of years or the costs of demolition of the Klondyke site.

Brynderwyn receives donations from the Auckland Region Helicopter Trust which covers most of the on-going power usage in return for housing their repeater. We may need to find alternative funding to cover the power usage if this site is to continue to operate.

The Auckland VHF Group pays licence fees for each Repeater, Beacon and link frequencies. Donations are being received for sponsorship of licences which is assisting to pay these fees. A list of sponsors is published in Spectrum. These fees are likely to increase as result of RSM's review of the radio spectrum fees framework.

We thank those clubs and individuals who have been able to assist with donations towards running costs and Licence costs over the past year. Without this financial support, we would not be able to continue those services.

I would expect that the Clubs Subs be kept at the same level as last year.

Finally I would like to thank Racquel Probine for her work acting as honorary auditor/reviewer for the accounts which I plan to be completed.

George Raffles, ZL1TUX
Acting Treasurer Auckland VHF Group Inc
3rd November 2017

Spectrum Editor's Report

Doug Cooke's death has had an effect on Spectrum as the flow of secretary's and treasurer's reports has been interrupted. The policy is to present the minutes and presentation of general meetings as a regular feature. The idea is to raise technical content by documenting the content of the presentation. Where I receive information about any events of interest, especially relating to VHF+ they will be printed. Where members have written up their own projects and experiences they will also be welcome.

A suggestion was made at a committee meeting that the members would be interested in knowing about the officers and committee members. Two profiles appeared during the year. It is an example where after voicing an idea someone else is expected to do it. Some more feedback from the readers would make it easier to locate topics that people do want to read about and the service level they would like to see. I hope that the opportunity to buy a modern technology 925 MHz transverter as advertised in Spectrum will be taken up by some of the members.

The print deadline to receive material for the next Spectrum is currently set for the Friday after the committee meeting in case a discussion topic needs to be known to all of the members. In the case of a weekend without commitments the proof would be ready by Monday and emails to members would be available by Wednesday. Where Spectrum comes out later than this the editor has chosen to delay completion until important contributions have been received.

Peter Loveridge November 2017

Storage of VHF Group Operating Documents

With access to all club officers and Committee members

At the October Committee Meeting there was discussion of how to provide access to the records and operating documents from some central location that was not dependent on just one member of the club holding them (eg the Constitution or an insurance policy). In light of the difficulties experienced following the death of Doug Cooke where a computer was no longer available a number of services stopped working and the ownership of domain names has still not been resolved. The ASB Bank has not so far provided access to the officers who have taken over Doug Cooke's role.

Suggestions included using a Bank Deposit Box for original documents, a Google Drive or Drop Box for scanned documents.

How much would these options cost?

The AGM is an ideal time to discuss matters of administration of the club.

Auckland VHF Group Inc

Minutes of Annual General Meeting 14 November 2016

Start: 7:55 pm

Attendance: As per attendance book

Apologies: ZL1MYL, ZL1ICU, ZL1UEX, ZL1AYV

AGM Minutes 2015:

That the minutes printed in Spectrum be taken as read.

Moved: Vaughan ZL1VH, **Seconded** ZL1TTE **Carried**

Matters arising: - ZL1AYV should show in the apologies list.

That the minutes of the AGM held 09th November 2015 be accepted as a true record.

Moved Dave ZL1TIA, **Seconded** ZL1TTE **Carried**

Presidents Report:

Dave ZL1TIA presented his report as printed in Spectrum November 2016, pages 7, 8.

He noted that health may impact on his ability to continue in the role of president.

That his report be adopted

Moved Dave ZL1TIA, **Seconded** ZL1TTE **Carried**

AREC Report:

Dave presented Laurie ZL1ICU's report as printed in Spectrum page 8.

Comment that the report would be improved by thanking those who contributed to the activities.

That the report be adopted

Moved Dave ZL1TIA, **Seconded** ZL1TTE **Carried**

Financial Report:

Doug ZL1TTE presented his report as printed in Spectrum page 9 and spoke to the reviewed accounts as circulated at the meeting. He pointed out the unknowns of Lease and Water rates once a new Lease is signed and the uncertain of the future of Klondyke with incurred legal costs.

Thanks to Laurie & Marlene for donation of D-Star repeater Internet costs. Thanks to Terry ZL1BPA and George ZL1TUX for donations to the 60th anniversary. It has been a good year for Trading income.

Thanks to Racquel Probine for acting as auditor/reviewer for the group.

That his report be adopted

Moved Doug ZL1TTE, **Seconded** ZL1TIA **Carried**

Doug ZL1TTE discussed his Budget Income and Expenditure spreadsheet.

That the 2016 subscription remain at \$45.00

Moved Doug ZL1TTE, **Seconded** ZL1VH **Carried**

Proposed that Family membership be \$10 each additional member and associate membership be \$40 each

Moved Peter ZL1UKG **Seconded** ZL1VH **Carried**

Moved that Racquel Probine be appointed the auditor for the next financial year:

Moved Doug ZL1TTE, **Seconded** ZL1??? **Carried**

Repeater Report:

Vaughan presented his report as printed in Spectrum page 10, 11.

That his report be adopted

Moved **Vaughan** **ZL1VH,** **Seconded** **ZL1UKG** **Carried**

Spectrum Editor's Report:

Peter presented his report as printed in Spectrum page 11. He inquired whether any changes in content were required. There was no feedback.

That his report be adopted

Moved **Peter** **ZL1UKG,** **Seconded** **ZL1TTE** **Carried**

Trading Table Report:

A verbal report was given by Vaughan, ZL1VH.

It was proposed to reduce some of the stock holding as it was too old to be useable and there was no demand for it. Shelf space would be better devoted to more modern components such as SMT. A working bee was suggested to prepare these items for sale. Jaycar provides a good selection of common components.

That his report be adopted

Moved **Vaughan** **ZL1VH,** **Seconded** **ZL1TIA** **Carried**

Election of Officers

1 President

Nominee Moved by Seconded by

2 Vice-President

Nominee Moved by Seconded by
ZL1TIA ZL1TTE ZL1VH

3 Secretary To be confirmed

Nominee Moved by Seconded by
ZL1MYL ZL1TIA ????

4 Treasurer

Nominee Moved by Seconded by
ZL1TTE ZL1VH ZL1TCI

5 Committee

Nominee	Moved by	Seconded by	
Brendan	ZL1TTE	ZL1TIA	
ZL1UKG	ZL1TIA	ZL1TCI	Until February 2017
ZL1GSG	ZL1TIA	ZL1TCI	
ZL1TCI	ZL1UKG	ZL1TIA	
ZL1TUX	ZL1TIA	ZL1SK	

6 Head Repeater Trustee

Nominee	Moved by	Seconded by
ZL1VH	ZL1TIA	ZL1SK

7 AREC Section Leader **To be confirmed**

Nominee	Moved by	Seconded by
ZL1ICU	ZL1TIA	ZL1TTE

8 Spectrum Editor

Nominee	Moved by	Seconded by
ZL1UKG	ZL1VH	ZL1TTE

9 Honourary Reviewer

Nominee	Moved by	Seconded by
Racquel Probine	ZL1SK	ZL1TTE

General Business:

Auckland Council Civil Defence will not allow Community Response Groups to use the CD logo and will not provide training for them to assist paid staff. No CD may equate to no MOU for the VHF Group which could provide financial support. CD staff no longer appear to have knowledge of radio and how to use it as a resource. Churn of staff has led to this state.

The Regional AREC meeting this week may provide more understanding of the Council position.

There was no motion arising from this discussion.

The ATV equipment still shows on the Asset Register. It is no longer usable for licencing reasons and occupies space at the Nihotupu site. It was proposed that it should be written off or sold. Action would be taken in 2017.

The Annual General Meeting closed

The AGM closed at 09:40 pm

VHF Group General Meeting Minutes : Monday 9th October 2017
Held At: Auckland VHF Group Clubrooms 30 Hazel Avenue, Mt Roskill.

Start of Meeting: 07:40 pm

Meeting Chaired By: Vaughan, ZL1VH

Minute Taker: George , ZL1TUX

Attendance: As per attendance book containing:

ZL1VH, ZL1TUX, ZL1XXX, ZL1TND, ZL1AAR, ZL1TCI, ZL1ICU, ZL1MYL, ZL1GSG, ZL1GYM, ZL1TOF, ZL1TDG,, Peter Shaw (LPFM), Gareth (LPFM), Ross Muir (NZEI), Bruce Grenville (Blockhouse Bay Radio)

Apologies: ZL1TAY, ZL1TIA, ZL1AYV, ZL1UKG,

Moved: ZL1TCI

Seconded: ZL1XXX

Minutes of Last Meeting: The September General Meeting Minutes of Monday 11 September 2017, as published on Page 9 of the October 2017 issue of Spectrum be taken as Circulated and read.

Changes to the Minutes: None

Minutes Moved: ZL1XXX

Seconded: ZL1TCI

Matters Arising: None.

Correspondence IN:

- 1) Branch 29 newsletter (the 29-er)
- 2) Break-In, September / October .
- 3) 2 qty ASB Bank Statements, (Internet Account, Investment Account)

Correspondence OUT:

None

Correspondence In, Received and Out Endorsed

Correspondence Moved:

Seconded:

Accounts:

ASB

Accounts IN:

Power

Contact, Klondyke
Mercury, Clubrooms
Meridian, Brynderwyns

Ross ZL1EME for purchase of materials for the interior repair and re-lining. \$169.86

Auckland Council Invoice for insurance Recovery. \$332.01

Accounts OUT:

Power

Contact, Klondyke
Mercury, Clubrooms
Meridian, Brynderwyns

Accounts, Received and Payments done on receipt of Invoices

Accounts Moved: ZL1XXX

Seconded: ZL1TCI

General Business:

- 1) The planned celebration of 45 years since the clubrooms were opened has been cancelled. This was to have been held next Saturday 14th October.
- 2) Clubrooms Painting. In August, Vaughan ZL1VH called for expression of interest to paint the outside of the clubrooms. Four painting companies contacted, three expressed interest, only one responded with a quote by the deadline of 25 September. Reference details of quote. \$8,500.00 plus GST. Total \$9,775.00.

Need to get a couple more quotes to validate the price, Price is expected between \$6,000 to \$8,000, so may be on the slightly high side.

- 3) 4 November, Western Suburbs Sale at Rosebank Primary School Hall. The sale doors open at 9.00am. Gold coin Entry \$2.00 for buyers.
- 4) Laurie ZL1ICU, Delivered CD INFO to members and visitors, for (Get Ready Week) Stay Safe, Stay Informed.
- 5) Puketepapa Board, Laurie had a plan of the part updates. Plans were for :
 - \$30,000 for car park update,
 - \$40,000 for tennis court update.
 - The far courts may be turned into lawn for drainage issue,
 - 12 parks/disabled parks were being looked at.
 - Bamboo along drive is being removed
 - Path from drive, around end of building to tennis club drive, for extra parking.
 - Expected schedule start February 2018.

Puketepapa board requires comments on changes back by the end of the month.

Laurie to scan and send plans to committee, for review before the committee meeting.

Business Meeting Close. 2003hrs, (8:03 pm)

The meeting was then given a presentation by Gary Chapman, on Battery Technology which turned out to be a very interesting overview.

Vaughan thanked Gary for the presentation, and presented him with a bottle of wine.

Meeting closed at 2109hrs (9:09pm)

Supper was then served with more discussions.



Battery Technology Update with Gary Chapman

Our October meeting guest speaker was Gary Chapman from GNB Industrial Power. Gary's talk encompassed his years of experience in the area of leading technology battery systems. Gary introduced the topic with a look at batteries in a range of applications from elephant tracking collars to the very large banks of lithium batteries used for energy storage.

Gary took a brief look at the many different battery chemistries in use: LiSoCl₂, L1SO₂, LiMnO₂, Carbon Zinc, Alkaline, SLA/Flooded/AGM/GEL/Crystal lead acid, Ni-MH, Ni-Cd, Li-ION, LiFePO₄, L12TiO₃, Flow, Fuel Cell and LiBr. He commented on the advantages and disadvantages of several of these battery chemistries and we got some good advice on the best brands to buy!

Battery safety was next with a look at correct charging techniques, the importance of understanding the discharge current your battery can deliver, and the correct charging current. The ambient temperature your battery operates at has a significant effect on battery performance and life, as does the correct storage conditions and first use charge and discharge. Finally in this section, Gary discussed protection circuitry, especially as it applied to lithium batteries.

Gary then invited questions from the floor and covered a very wide range of topics from the Boeing aircraft issues, batteries in electric vehicles and Tesla in particular, Samsung phone batteries and the lessons learned. A very interesting evening and a great presentation from a very knowledgeable guest speaker.

Clubrooms Painting

As reported at the October general meeting, your committee has been trying to get quotations to paint the outside of the clubrooms. A discussion at the July committee meeting suggested that our time would be better spent on other group activities and that we should get a contractor to paint the clubrooms exterior. Although the existing paint is in reasonable condition, the surface is starting to get powdery and in general the exterior of the building is starting to look a bit tired.

In late August, Vaughan ZL1VH put out a request for expressions of interest to four different painting companies within a 15km radius of the clubrooms. These were: Citywide Decorators in Mt Eden; A BC Painting Contractors in Dominion Road, Mt Roskill; Goodline Painters in Mt Roskill and Mundy and Sons, Richardson Road, Mt Roskill. Three of the four companies contacted responded saying they would quote. No response received from Mundy and Sons.

The scope of work as to waterblast the exterior including under the eaves and barge board, spot prime/undercoat as required, sand and prepare the surface. Rustkill to be applied to window flashings where rusting is starting to occur. Apply two coats of good quality paint (Dulux or Resene) – colour similar to existing (double alabaster was suggested). Existing window sills to be finished in a contrasting colour as per existing colour scheme. Painting to include fibreboard base surround.

Subsequently, only one of the companies who responded to the initial request actually provided a quote. The quote from Goodline Painters is listed below. When this was reported back to our October meeting, two of our members – Matthew ZL1YOT and David ZL1TND offered to contact painters they knew to get quotes. As a result of this, we now have three quotes for painting the exterior of the clubrooms:

Goodline Painters Mt Roskill	\$8500.00 + GST
Matthew King	\$7000.00 + GST (assumed as not stated on quote)
North Shore Painting	\$5800.00 + GST (assumed as not stated on quote)
Both quotes 2 and 3 include extra options:	
Quote 2 (Matthew King) Apply two coats of "Graffiti Shield" to the North side	\$350.00
Waterblast roof	\$300.00
Quote 3 (North Shore Painting): Waterblast roof and rustkill, apply two coats of Dulux Roofline	\$1600.00

Note GST is assumed to apply to the prices of the options shown above.

Recommendation: That the Auckland VHF Group at its November AGM, approve the quotation from North Shore Painting to paint the outside of the clubrooms.

Vaughan Henderson ZL1VH
For Auckland VHF Group Committee



Secret nocturnal
activities at the
Clubrooms.

Brendon & Darryl
defeat the borer.



925 MHz Transverters

Your VHF Group is planning on producing a small number of transverters for the 925 MHz amateur band (33 cm) based on a design by Greg ZL1GSG. The transverter will have a 2m I.F. and produce approximately 2 watts of output. Due to the state-of-the art design and construction using small SMD components, the transverters will only be offered as completely built up units.

At this time the price is expected to be about \$300 each. To gauge the demand for these, please let Vaughan ZL1VH (contact details on page 2) know as soon as possible. An initial run of four transverters is planned.

News from Canada

Grant ZL1WTT reports from Canada on his activities:

Since moving to Toronto, Canada, the good thing has been a lot RF work going. I have been offered three jobs so far as well as my current job. I am also involved with Seneca collage and taking a radio class for students. I hope to get new VE3's on the air in the near future.

My Short Term Special Purpose (STSP) ATV repeater has been up and running for a few months now. It's located just north of Toronto and is on the air without any of the licensing nonsense that I needed to deal with back NZ! Over this you have three licence levels, Basic to get started with, Basic with Honours and the Advanced. With having the Advanced license I am free to build and put repeaters on the air. I just don't understand why this was so impossible to do when I was in NZ.

On the down side the band-plans are 20 years out of date here and need be reworked. On the 23cm band in NZ I had two wide-band slots I could use for ATV, here there is only one in same 60 MHz of spectrum. The interesting thing is the 13 cm is 150 MHz wide from 2.3 up to 2.45 GHz, so equipment I took off the air in NZ 15 years ago, I am now reusing on the lower 100 MHz below the WiFi band. Therefore the portable STSP ATV repeater is receiving on 1265 MHz, both for FM TV and DVB-S with the digital output on 2.37 GHz. I am also building my fixed site repeater using a 100 Watt PA on the 900 MHz (try doing that in NZ on the 33cm band). Again analogue FM TV with DVB-S been used on 23cm with DVB-T/T2 on 918 MHz. This is a fully digital DATV repeater working at the Transport stream level. The site has a 100M tower on it and I have space at the 60M point for my antennas. I am really enjoying building equipment once more with the freedom to get my repeaters on the air with minimal politics.

On the amateur radio front, there are many things the same here, but also some differences. I have been in contact with Ed Hare, W1RFI at the ARRL in regards to ongoing interference to our microwave bands in this part of the world. The HF guys are getting all upset with the amount of noise in their part of the spectrum, I invited him to take a closer look at the Microwave bands and limited space left for Ham radio usage. I am keeping him updated on the lack of band planning between the commercial and Amateur services. This is making it near impossible to use this spectrum without getting interference to and from commercial users. He is someone useful to know due to the fact that the ARRL has spectrum planning meetings with the FCC to look at these types of issues. This will have a big impact on future access here in Canada as well with the US

been so nearby. I am also in regular contact with Radio Amateurs of Canada (RAC) keeping them informed about these same issues. The Microwave bands are just as important as the HF spectrum, but it is becoming harder and harder make use of these bands between 33 cm up to 3 cm. At the moment Canada is about 20 years behind New Zealand and if they do not start addressing access to bands above they could find they end up in the same predicament as what has happen in New Zealand.

So far I have been lucky to find space on 13 cm between 2.36 and 2.38 GHz for my ATV repeater TX, most of the Amateur usage here is on 2 m and 70 cm bands. The MESH guys are starting to look at doing more on other bands not just using 2.4 GHz, but Robert ZL1FLY is doing a lot more with a lot less in Auckland.

Here in Canada you have two main levels of operating certificates, Basic for limited access to all bands, Advanced that will let you engineer repeaters and to become a repeater operator. This is something that should be looked at in New Zealand, to provide a level of advancement within Amateur radio, not everyone wants to be labelled as an appliance operator. This has given me a lot freedom to do ATV/DATV with next to no politics involved, you just enjoy the hobby. I have also been asked give some talks on ATV and this gets me out to meet club members from all parts of Toronto. I find myself doing more with emergency communications planning with these clubs. Like New Zealand, the Toronto area amateur radio clubs are aging and are looking at new ways to provide emergency planning in their areas.

73 Grant,
ZL1WTT / VE3XTV



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

INFORMATION

The Auckland VHF Group has an AREC section 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 Section 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 Section Leader or his Deputy:

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

Deputy Section; George Raffles ZL1TUX 626 6944 021 735 361 zl1tux@xtra.co.nz



AUCKLAND VHF GROUP (INC)

**SUPPORT THE EFFORTS OF THE VHF GROUP THROUGH YOUR
SUBSCRIPTION**

SUBSCRIPTIONS FOR 2017

THE SUBS GO TOWARDS;

- Maintenance and on-going improvements to beacons, repeaters and linking systems for the national system, including the Klondyke repeater site.
- Provides on-time and free access to spectrum magazine as soon as it is available.
- Provides 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 \$45.00

ASSOCIATE MEMBERSHIP \$40.00

FAMILY MEMBERSHIP ADDITIONAL \$10:00

SEE ATTACHED MEMBERSHIP RENEWAL FORM (next page)



REMEMBER TO KEEP US INFORMED OF YOUR INTERNET ADDRESS!

OTHERWISE WE CANNOT SEND YOU SPECTRUM!

NAME	Mr/Mrs/Miss/Ms	Christian or given name	Surname
Address			
		Phone: (home)	
		Phone: (work)	
		Phone (Cell)	
		Email	
Occupation:		Callsign	
NZART Member		Branch assigned	
AREC Member		Branch assigned	
Category			To pay
Membership	Full	\$45:00	\$
New/Renewal/Change	Associate	\$40:00	\$
Receipt #	Family Add	\$10:00	\$
Donations	Auckland ATV		\$
	Auckland/Klondyke		\$
	Brynderwyn		\$
	Data/D-Star		\$
	IRLP		\$
	Beacon/Repeater/Links/ATV Licences		\$
	Other		\$
		Total	\$
Payment			
Circle one -->	Cash	Cheque	Internet deposit
Invoice/Statement re-quired	Please Advise Treasurer		
Internet	To account ASB 12-3020-0473626-00. Account name is: Auckland VHF Group Inc. Include your Name/Callsign for us to track. Note: this form needs to be returned to update records. FAX to 028 25544801 or Email		
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 2017

<u>Repeater frequency</u> and name	Repeater location	Sponsorship advised for 2017	Amount paid
53.725 Repeater	Klondyke Road	ZL1AAR	50.00
144.253 Beacon	Nihotupu	ZL1IU	50.00
145.625 Data Rptr	Klondyke Road	NON-operational	
145.650 Dstar repeater	Klondyke Road	ZL1ICU	50.00
146.625 Repeater	Klondyke Road	ZL1ICU	50.00
146.700 Repeater	Ruaotuhenua		
146.900 Repeater	Mt Puketutu Radio		
432.253 Beacon	Nihotupu	Stability testing	
438.175 Dstar repeater	Klondyke Road	ZL1ICU	50.00
438.500 Repeater	North Head		
439.850 Link Tx to Kaimai	Klondyke Road		
439.875 Ak Nat Sys Rptr	Klondyke Road		
439.900 Link Tx to Egmont	Klondyke Road		
439.950 Link Tx to Brynderwyn	Klondyke Road		
1291.9 Repeater	217 Glenfield Rd	ZL1ABS	50.00
		Total Sponsorship	\$300.00
NZART Inc: Branch/Personal donations			
Franklin Radio Club. Br: 10		\$200.00	
Papakura Radio Club. Br: 65		\$500.00	
Auckland Radio Club. Br: 02		\$100.00	
John Lissignoli ZL1PO		\$60.00	
		\$	
	Donations	\$860.00	
Current as at 03/11/2017			

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 2017 or donate towards the Group's repeater Operations.

TRADING TABLE

Currently our Trading Table is only open on meeting nights. We will be at the Western Suburbs sale on Saturday 4 November, so come and have a look.

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. A small plastic cap seals off the back of the adaptor (remove it to do the soldering).



Our price: \$3.00 each

And there's more....



Two only coaxial transfer relays as per photo. N-Type connectors and 12V operation, removed from equipment but in excellent working condition.

\$50.00 each

23cm LOOP YAGI KIT FOR SALE

The last one! Model 2325LYK kit makes a high gain 23cm Loop Yagi. The price for this kit is \$120.00.

The kit consists of all the parts to make up a 25 element loop Yagi including the element mounting hardware and assembly in instructions. What is not supplied with the kit is the boom. This can be either a 25mm diameter aluminium tube, or a 25mm square section (square or "U" section).



When built up, the 23cm Loop Yagi has the following performance:

Frequency Range:	1.25-1.30 GHz
Number of Elements:	25
Boom Length:	1.83m (72")
Boom diameter:	25mm (round or square)
Gain:	18 dBi
-3dB Beamwidth (E plane):	30°
F/B Ratio:	> 20 dB
Maximum power:	550 Watts

NEW – 4 Ohm Speaker

We have a good quantity of small 4 Ohm speakers complete with a black plastic bezel. The speakers are 50mm square and 33mm deep. Only \$2.00 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 $N_f = 1.4\text{dB @ } 4\text{GHz}$, $4\text{dB @ } 12\text{GHz}$. [S.case]	\$5.00 each
BF199	NS 25V 25mA, 500mW $f_t = 550\text{MHz}$ 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 1.9dB n_f @ 500MHz [S.case]	\$2.00 each
BFY90	NS 30V 50mA 2.5dB n_f @ 200MHz TO72 VHF/UHF[S.case]	\$1.50 each
MFE121	Dual gate N-MOSFET 20V 5mA VHF Amp BF352 equiv. [S.case]	\$0.50
MPS5179	NS TO92 12V 50mA 200mW f_t 2000MHz N_f 5.0dB [S.5.13] RF Transistor. Use in UHF/VHF amplifiers with collector currents in the 100 μA to 30 mA range, and in low frequency drift, high output UHF oscillators.	\$0.50 each
BFG67	NS 8GHz 50mA rf amp/preamp SOT143B package [S.case]	\$1.50 each
MPS5172	NS 25V 100mA f_t 120MHz [S.7.5]	\$0.10 each
MPS6507	NS, VHF Mixer, 20V, 100mA, f_t 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. f_t 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] Designed as driver and RF power amplifier. 0.5 to 0.8W output at UHF land mobile band. Gain 15dB ($V_{ce}=6.0\text{V}$, $I_c=5\text{mA}$, $f_t=2000\text{MHz}$)	\$1.00 each
3SK45	Packaged as ECG221, dual-gate N-channel MOSFET for vhf amp and mixer applications. [S.6.16]	\$0.75 each
3SK73GR	Dual-Gate MOSFET N-channel 30V 7mA [S.6.7]	\$1.50 each
3SK74L	Dual-Gate MOSFET N-Channel 20V 25mA(max) [S.case]	\$1.00 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
40673	Dual-gate N-Mosfet – See MFE121 [S.case]	\$0.50 each