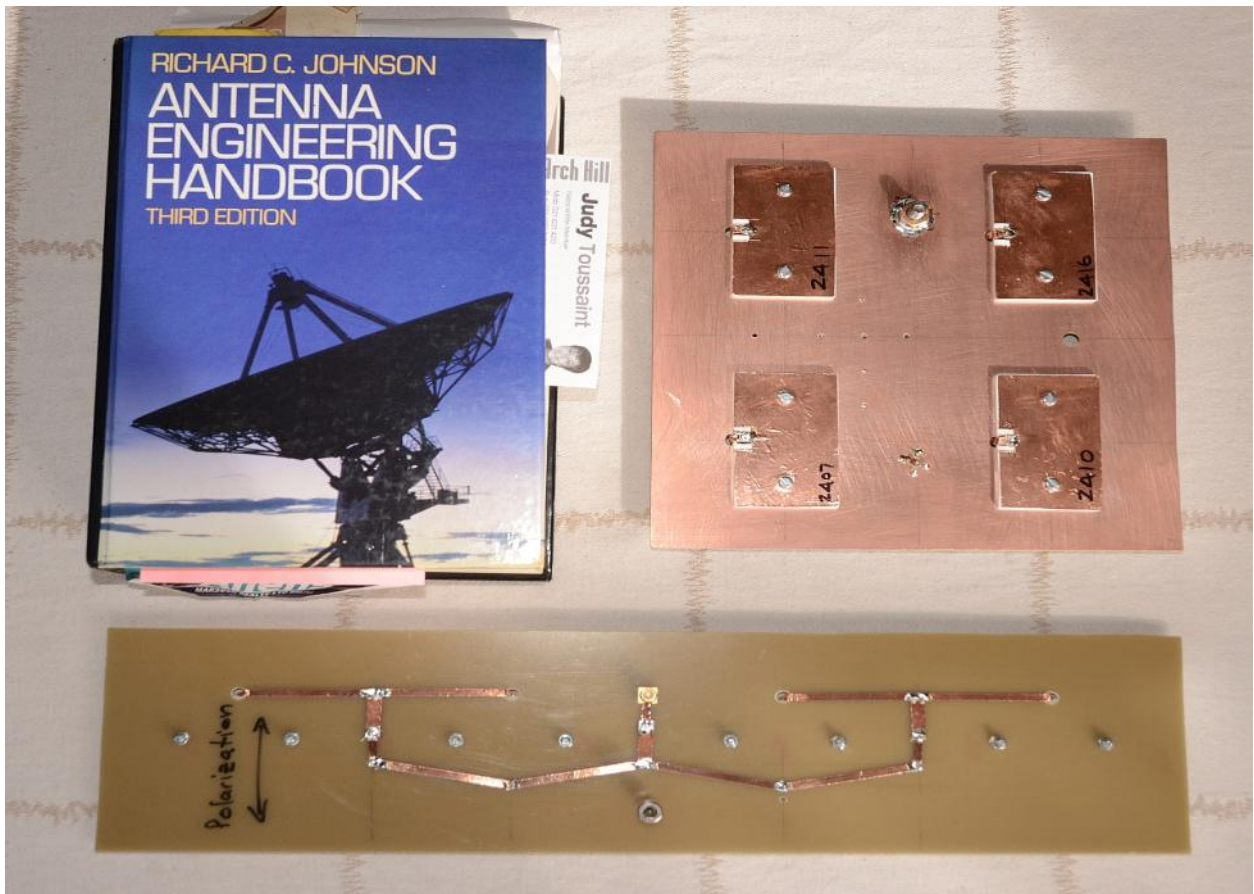


The Official Newsletter of the  
Auckland VHF Group Inc.

# Spectrum



### Microstrip (patch) Antennas you can build

See page 4

### Celebrating 60 years : 1956 — 2016

There will be a social event on Saturday 16 July at Ryder's Cinema

See page 3



# 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
President	Dave Dingley	ZL1TIA	828 9394		<a href="mailto:marday@ihug.co.nz">marday@ihug.co.nz</a>
Vice President	Vacant				
Secretary	Marlene Matthews	ZL1MYL	634 5130		<a href="mailto:perma@xtra.co.nz">perma@xtra.co.nz</a>
Treasurer	Doug Cooke	ZL1TTE	846 6075	0274 978 121	<a href="mailto:d-jcooke@ihug.co.nz">d-jcooke@ihug.co.nz</a>
Committee	Vaughan Henderson	ZL1VH	418 1071	021 844 804	<a href="mailto:vaughanh@vodafone.co.nz">vaughanh@vodafone.co.nz</a>
	Merv Thomas	ZL1SK	828-7174	27-499-0262	<a href="mailto:m.r.thomas@vodafone.co.nz">m.r.thomas@vodafone.co.nz</a>
	Peter Loveridge	ZL1UKG	377 3398		<a href="mailto:peterlov@ihug.co.nz">peterlov@ihug.co.nz</a>
	David Probine	ZL1TND	630 8044		<a href="mailto:dprobine@clear.net.nz">dprobine@clear.net.nz</a>
AREC Section Leader	Laurie Mathews	ZL1ICU	634 5130	0274 817 463	<a href="mailto:perma@xtra.co.nz">perma@xtra.co.nz</a>
Deputy Section	George Raffles	ZL1TUX	626 6944	021 735 361	<a href="mailto:z11tux@xtra.co.nz">z11tux@xtra.co.nz</a>
ZL1BQ Trustee	John Dunn	ZL1JD	473 9514	021 731 907	<a href="mailto:john.dunn@clear.net.nz">john.dunn@clear.net.nz</a>
Repeater Trustee	John Dunn	ZL1JD	473 9514	021 731 907	<a href="mailto:john.dunn@clear.net.nz">john.dunn@clear.net.nz</a>
Klondyke Managers	ZL1VH / ZL1BK				
690 Manager	Dennis Seymour	ZL1UET	532 8666		
850/670 Manager	Vaughan Henderson	ZL1VH	418 1071	021 844 804	<a href="mailto:vaughanh@vodafone.co.nz">vaughanh@vodafone.co.nz</a>
ATV/Beacons					
Spectrum Editor	Peter Loveridge	ZL1UKG	377 3398		<a href="mailto:peterlov@ihug.co.nz">peterlov@ihug.co.nz</a>
Trading Table	Vaughan Henderson	ZL1VH			<a href="mailto:tradingtable@aucklandvhfgroup.org.nz">tradingtable@aucklandvhfgroup.org.nz</a>
Hon Auditor	Raequel Probine		630 8044		
Webmaster	Terry Corin ZL1BPA				<a href="mailto:z11bq.webmaster@gmail.com">z11bq.webmaster@gmail.com</a>
Club Web Page					<a href="http://www.qsl.net/z11bq">http://www.qsl.net/z11bq</a>
ATV Interest Group					<a href="http://www.qsl.net/z11qf/atvug/ATVusers.html">http://www.qsl.net/z11qf/atvug/ATVusers.html</a>
ZL1VHD Dstar gateway administrator; Laurie ZL1ICU			634 5130	0274 817463	<a href="mailto:perma@xtra.co.nz">perma@xtra.co.nz</a>
ZL1VHD Dstar gateway registration URL :					<a href="http://z11vhd.dstar.org.nz">http://z11vhd.dstar.org.nz</a>

### Club News and Net:

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

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

*SPECTRUM* is the official journal of the Auckland VHF Group Inc. Opinions expressed are those of the authors and do not necessarily reflect club points of view.

The closing date for SPECTRUM articles is by the 1st of each month. Articles to be submitted to the editor Peter ZL1UKG [peterlov@ihug.co.nz](mailto:peterlov@ihug.co.nz)

## From the President

Greetings All,

Here I am, sitting in front of the computer screen, trying to conjure some words to appear. I am not having much joy. In fact, I am not having much luck with anything at the moment. All of this is because I have a dose of some lurgy or other. Sitting here feeling miserable and not getting any sympathy from Margaret or the cat, knowing full well that Editor Peter will be thinking dire thoughts about my apparent tardiness. It gets worse, this has been going on for over a week. The only people benefiting from my state of misery are the manufacturers of tissue paper.

It is of some solace that, even if I had the benefit of a voice to text “app” installed on this machine, it would be of little use at the moment, because it would probably require re-training before it would be of any use. The fact that my voice has withdrawn to a raspy croak at least saves the early morning users of 6625 from having to listen to my sorrows. 23 minutes to Nelson St indeed.



If anyone has a surefire remedy for what Margaret is calling “man flu” , I would very much like to hear about it. I have decided that I must make an effort to rid myself of this malady in time to hear Peter ZL1UKG discuss the ins and outs of little aerals. I have a current interest in getting a little more range from some Bluetooth type devices.

May I also commend for your consideration, the Group’s 60th anniversary celebrations. On the afternoon of 16th July we will be inviting our neighbours to visit us at the club-rooms for an afternoon tea and, in the evening, we are planning dinner and a film for

members at J.C.Ryders in Avondale.

73  
Dave  
ZL1TIA

At Ryders Cinema doors will open at 5:30 pm and dinner will be served at 6:30 pm. The Auckland VHF Group will provide desert. Drinks will be BYO. The cost is \$35 per person. It is expected that this will be a popular function. Bookings will need to be made. To make management of the function easier, payment must be made prior to the evening. Contact the Treasurer or member of the Committee to make payment.

# Auckland VHF Group (Inc) Branch 66

## **MEETING NOTICE**

**13<sup>th</sup> June 2016 7.30pm, Hazel Avenue Club Rooms**

(Located on left at the end of Hazel Avenue)

*The Evenings Subject:*

Hear a Conference Report from our delegate.

**"Support a Data Mesh with home brew antennas"**

Peter Loveridge will describe the properties of Micro-strip antennas and how to make one. They can be arranged in arrays which have patterns suited to point to point links and pancake patterns for wide distribution. (Coming to a Data Mesh node near you.)

Another meeting not to be missed!

**EVERYBODY WELCOME**

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### Easter Convention 2017

A lot of preparation is required to get a program together and promote it. The last Convention was held in 2013 after a long gap and was well supported with an ideal venue for presentation and catering. The Auckland VHF Group will be gauging interest to see whether a Convention would be supported in 2017 so that the work involved can be initiated.

Any topic that you would like to hear more about may excite others to join in on the day. The VHF Group would like to hear from you to help set the ball rolling.

**Auckland VHF Group Inc**  
**Minutes of General Meeting held**  
**Monday 9<sup>th</sup> May 2016**

**Present: Members as per attendance book.**

**Apologies: ZL1TCI** (Arrived at 19:55)

The meeting was chaired by Dave ZL1TIA.

Minutes of 11<sup>th</sup> April 2016 meeting as per Spectrum.

**Moved: ZL1AOX Seconded: ZL1TIA**

**Matters Arising from Minutes:**

1. Are there enough people to take the trading table down to Hamilton, as members have other commitments and may also be involved in a Civil Defence exercise.  
Michael ZL1AB volunteered to help.

**Moved: ZL1MYL Seconded: ZL1UKG - Carried**

**Correspondence In:**

1. Card from Rod Bradman's family thanking the club members for sympathy card.
2. Letter from Debby Morgan to all NZART Branch Secretary's with a form to update club executive.
3. Thank you letter from NZART President Stuart Watchman for \$1,000 Cheque being the clubs pledge towards the Auckland Unitary Plan legal costs.

**Correspondence Out:**

1. Telephone call to Debby Morgan NZART Business Manager to organize form for Club Executive Update.  
(Told it's due to be posted to us this week) Due back by 31<sup>st</sup> July 2016.
2. Thank you letter to Stephen Hayman ZL1TPH (Retired as Spectrum Editor).
3. Sympathy Card to Chris Parkinson's Family.

**General Business:**

1. None.

The General Meeting closed at 20:05.

**Remit Meeting commenced 20:05**

ZL1TIA moved that ZL1VH to act as representative for Auckland VHF Group Inc at NZART Conference in Christchurch – Seconded ZL1TUX.

ZL1TIA moved that ZL1VH be given power of discretion on voting – Seconded ZL1TDG

Remit as per page 25 of March/April Break-In

ZL1TIA Read out Remit.

ZL1ICU said as a member of NZART and WIA he received both digital and paper copies of magazines.

A discussion was held re: the cost of postage which is going up in July.

A discussion was also held re: a new secure website that would be required for a digital copy of Break-In.

ZL1TIA asked those present who were eligible to vote to raise their hands.

Those in favour of the Remit totaled 9.

Those against the Remit totaled 1.

Abstentions nil.

Branch 66 Remit Meeting closed at 20:30

Meeting guest speaker Dave Dingley then gave his talk on Boafeng Radios models UV3R, UV5R and UVB5+.

His talk was very informative and enjoyed by all present, resulting in much discussion by members over supper.

Meeting closed at 21:40

## "Fun and Frustration with Chinese Radios"

A light-hearted look at the Baofeng UV-5R hand held with Dave ZL1TIA

Following consideration of the Conference Remit and voting in favour of supporting it Dave Dingley described how he was seduced by the features and price of his first taste of Baofeng as advertised on TradeMe. A non-amateur had imported one and had been forced to sell it to avoid being fined for not having a licence. Dave could not resist the quick-sale price. It lasted for a while before stopping working but was still value for money and Dave had developed a taste for it (cf opiates). In order to get more he needed to find a dealer and [www.409shop.com](http://www.409shop.com) came to his rescue. It appears that wherever you are in the world the advertised price includes free shipping. How could you go wrong? There are now units with more power, longer battery life and new features.

During the presentation examples were passed around and a schematic passed by as well. It contained remarkably few inductors. Most of them were around the transmit output stages to help keep them clean. The Achilles heel was revealed. Baofeng designs do not stand up to strong signals in adjacent channels. They do contain smart silicon which performs most of the transceiver functions and modulation and demodulation uses Software Designed Radio principles. You would need some precision hot air soldering tools to repair them but it turns out that whole spare PCBs may be available to fit into the case that you bought.

The antenna connection is an SMA. A short flexible cable to more rigid cable is desirable. An adapter with a stress supporting flange is also available as the SMA to case junction is not mechanically strong. Dave delivered his talk with gusto. Anyone in the audience getting started on VHF/UHF frequencies would be tempted to join him in his pleasure with the features per dollar available from Baofeng. Peter Loveridge 10 May 2016



## Amateur Television is alive

The antennas in use were shown in the May 2016 issue of Spectrum. The equipment being used was designed by Grant Taylor ZL1WTT. The simplex frequency of 1280 MHz vision carrier is being used to transmit. The sound carrier is 5.5 or 6.0 MHz offset from the sound carrier depending on which version of hardware is being used. The power in use is small at the moment, from 2 to 10 W. If more people become interested in this form of ATV a case for establishing a repeater like the one that operated at Whitford could be revived.

Some discussion is needed to choose the most appropriate frequencies to use. In 2015 Form 10s were submitted by the Auckland VHF Group to the ELG to establish a Digital ATV repeater. In hindsight the receive side of this repeater requested too many receive frequencies in the 23 cm band as inputs providing source for the digital output. The receive Form 10 will be withdrawn until agreement is reached for a single receive frequency. Until a DATV frequency is allocated a 23 cm transmit frequency such as 1280 MHz could be used to arouse ATV interest. This will require another Form 10 to be generated.

Peter Loveridge      ZL1UKG

10 June 2016

## Data Mesh Networks are on life support

During 2015 presentations were made to a number of clubs in the Auckland area about converting commercial Data Modems to amateur protocols and using their transmit capability on amateur bands. Quite a lot of interest was shown for this new technology that can be adapted to amateur radio. Form 10 applications for a backbone carrier system at 3.4 GHz were submitted by the Auckland VHF Group. Since then a new Band Plan has been published in the March / April 2016 issue of Break In, page 13. The frequencies applied for to support the backbone now do not fit into the band plan. A suggestion has been sent to an original promoter of the network for changes to the requested frequencies but no response has been received yet concerning the practicality of the changes for the available equipment.

The Form 10s will be withdrawn until agreement is reached for frequencies that comply with the band plan and are compatible with the available equipment.

Peter Loveridge      ZL1UKG

10 June 2016



## Auckland VHF Group Test Equipment

The Auckland VHF Group has gathered a collection of test equipment over the years to support the repair and construction of radio and other electronic equipment by the members of the club. Recently an inventory of equipment was made to see what there was so that obsolete items could be disposed of and usable items publicised and made available to members to borrow to support their amateur projects.

Like a library, you can book out a piece of equipment on the understanding that it will be returned and available for the next member. Record keeping of the Loans will be managed by the President or member of the committee.

Make	Model	Description	Details
Avo	Model 8 Mk 2	Multimeter	
Bird	43	RF Power meter	100C, 25B, 2.5E
Heathkit	OS-2	Oscilloscope	Audio
HP	5300A	Frequency counter	
Hung Chang	3502C	Oscilloscope	
Leader	LSG 200	Signal generator	100 kHz - 180 MHz
Marconi	2019A	Signal generator	Faulty #1
Marconi	2019A	Signal generator	Faulty #2
Marconi	TF 1152A/1	RF Power meter	10 - 25 W
Marconi	TF 2015	Signal generator	10 - 520 MHz
Marconi	TF 2171	Digital synchroniser	
Marconi	TF 2303	Modulation meter	AM / FM
Marconi	TF 2500	AF Power meter	0.1 mW - 150 W
Marconi	TF 2512	RF Power meter	10 - 30 W
Marconi	TF1065-A	Output test set	
Meguro	MQ-161	Q-Meter	
Philips	3232	Oscilloscope	10 MHz
Philips	GM 2875	Wobbulator	Alignment generator
Philips	PM 3070	Oscilloscope	100 MHz
Polarad Electronics	1105E	Signal Generator	800 - 2400 MHz, Weight 31 kg
Tektronix	7623A	Scope	7A26, 7B53A
MFJ	MFJ-991B	IntelliTuner	

## A few words from Debby ZL2DL —NZART

With the recent promotional offer being sent to over 3400 amateurs, the inaccuracy of RSM's SMART database has become more apparent.

Regrettably I have received 448 letters returned to me as 'undeliverable' by NZ Post. This means that those amateurs' details all have incorrect addresses.

It is a requirement of the Radio Regulations, that details are advised to RSM within one month of changing your address. This can be done either by phone to **0508 776 463** or e-mail [info@rsm.govt.nz](mailto:info@rsm.govt.nz) The same applies if you wish to have your address withheld within SMART, and will not be included in the NZART Call Book.

Furthermore I have received notification of over 44 silent keys that have yet to be removed from SMART, once again these call signs cannot just be released with a phone call to me. I need to receive this in writing. There is a special form for this which was included in the April newsletter from headquarters.

Finally, I have just received notification from RSM, that I can remove call signs for people who have advised in writing that they:

- a) no longer have an interest in amateur radio, or
- b) due to ill health (e.g. blind, Alzheimer's, dementia) and can no longer operate.

Please help me to make the RSM records as accurate as possible, this information produces the NZART Call Book, therefore it is our best interests to ensure it is as up to date as possible.

Talk soon...Debby, ZL2DL

## **Blue Sky ahead for NZART online**

NZART has started the process of reviewing the current website and we'd like to hear from members about what they want to see on their computer screens, mobile phones, smart watches and even your mobile rig if it has a screen!

There's a short four question survey and a bit of an intro at the web link below, please take five minutes to share your ideas.

<http://www.nzart.org.nz/bluesk>

Drop us an email to [bluesky@nzart.org.nz](mailto:bluesky@nzart.org.nz) if you have any questions specifically about the survey.

73, Chris ZL3LF

## **Whangarei Used Equipment Sale Day**

Whangarei Amateur Radio Club annual sale day will held on July 23<sup>rd</sup> 2016 in our club rooms at Whangarei Museum and Heritage Park, 500 State Highway 14, Maunu, Whangarei.

Doors open for buyers at 10:30am, tables for vendors are available at \$10 per 900mm. Tea coffee and a range of food will be on sale.

In the evening the annual 3 course Winter Dinner will be held, starting at 18:00hrs dinner being served at 18:30hrs (6:30pm). The cost is \$15.00 per head, BYO drinks.

Bookings for the meal and all table bookings to Brian Winger ZL1BSW phone 0274 913 888 or email [zl1bsw@nzart.org.nz](mailto:zl1bsw@nzart.org.nz)

## Surplus parabolic dish clearance

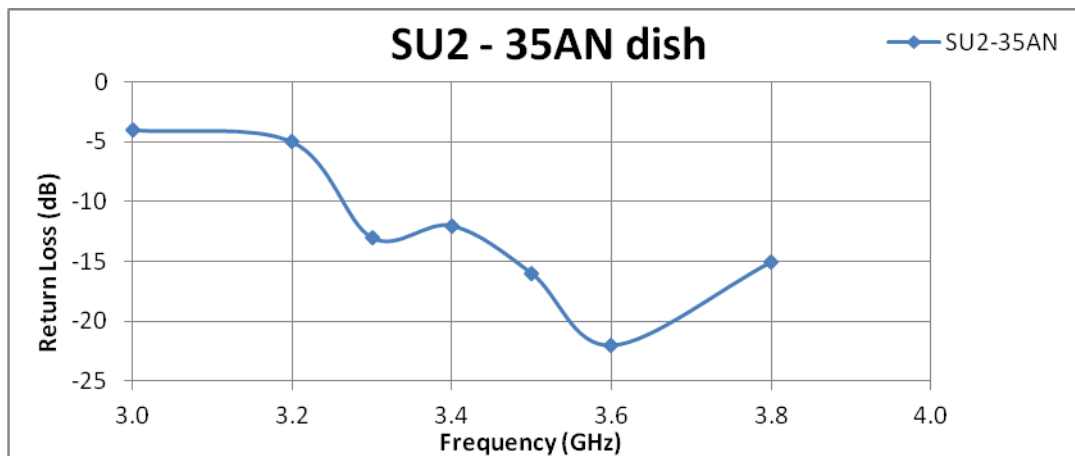
### Auckland VHF Group, Inc.

The Auckland VHF Group had an opportunity to assist a company that was about to write off some old stock that had never been used in the field. The dishes were mostly made by RFS of France and have size SU2 corresponding to a nominal diameter of 0.6 m. Rim to rim it is 0.75 diameter. Some of the dishes have feeds but they are not on Amateur bands. Weight is of the order of 8 – 12 kg. The awkward shape makes it desirable to pick them up from the club-rooms. This size is ideal for 6 cm and 3 cm bands and acceptable for 9 cm.

F/d is not specified for these dishes but measurement to the centre of the dipole of the “splash plate” feed is approx 19.6 cm above the surface (SU2 35AN). The other dishes are deeper with a lower F/d ratio that would require a wider angle of illumination. Where there is an existing feed the position can be recorded for positioning a replacement. Mounting hardware to a pole is available for several of the dishes for pointing in fixed directions as point to point links. The plate which mounts the feeds could be modified to support a feed built to match the dish or a new circular plate could be cut or turned from sheet aluminium if starting from scratch.

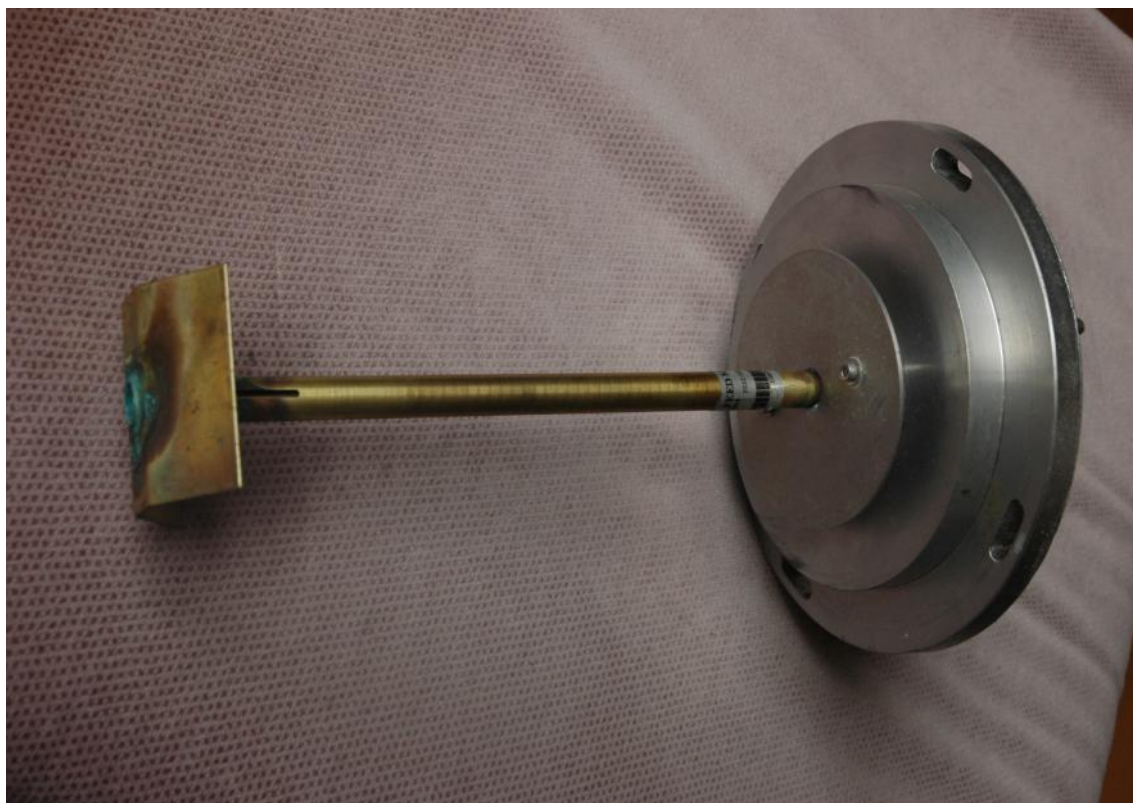
The asking price is NZ\$ 50 each.

The SU2 35AN dish has a feed for 3.4 – 3.6 GHz with an N(f) connector and is usable at 9 cm (3.3 – 3.41 GHz). The price for this model is \$60 each.



These measurements were made the old fashioned way with a cavity tuned signal generator, directional coupler and power meter all of which were 25 or more years old.

Contact Vaughan Henderson 09-4181071 or Peter Loveridge 09-3773398 for further information



The Splash Plate feed for the SU2-35AN dish



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

**INFORMATION**

The Auckland VHF Group has an active AREC section that works closely with Auckland City Civil Defence. They provide advice, resources and manpower to assist in times of need. The Auckland VHF Group clubrooms provide a backup system to complement the existing systems maintained by Auckland City Council Civil Defence.

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 Rally NZ.

For further information about AREC please see the NZART web site.

**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.

AREC:

Section Leader; Laurie Mathews ZL1ICU 634 5130 0274 817 463 [perma@xtra.co.nz](mailto:perma@xtra.co.nz)

Deputy Section; George Raffles ZL1TUX 626 6944 021 735 361 [zl1tux@xtra.co.nz](mailto:zl1tux@xtra.co.nz)

\*\*\*\*\*



## AUCKLAND VHF GROUP (INC)

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

### **SUBSCRIPTIONS FOR 2016**

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!**

<b>NAME</b>	<b>Mr/Mrs/Miss/Ms</b>	<b>Christian or given</b>	<b>Surname</b>
	<b>Mr</b>		
<b>Address</b>			
		Phone: (home)	
		Phone: (work)	
		Phone (Cell)	
		Email	
<b>Occupation:</b>		<b>Callsign</b>	
<b>NZART Member</b>		<b>Branch assigned</b>	
<b>AREC Member</b>		<b>Branch assigned</b>	
<b>Category</b>			To pay
<b>Membership</b>	Full	\$45:00	\$
<b>New/Renewal/Change</b>	Associate	\$40:00	\$
<b>Receipt #</b>	Family Add	\$10:00	\$
<b>Donations</b>	Auckland ATV		\$
	Auckland/Klondyke		\$
	Brynderwyn		\$
	Data/D-Star		\$
	IRLP		\$
	Beacon/Repeater/Links/ATV Licences		\$
	Other		\$
		<b>Total</b>	\$
<b>Payment</b>			
Circle one -->	Cash	Cheque	Internet deposit
Invoice/Statement re-quired	Please Advise Treasurer		
<b>Internet</b>	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 d-jcooke@ihug.co.nz		
<b>Post</b>	The Treasurer, Auckland VHF Group Inc., PO Box 10138, Dominion Road, Auckland 1446.		
<b>In Person</b>	Bring this form and payment to the next club meeting, 2 <sup>nd</sup> 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 license fees and the Group's repeater operations by the following radio amateurs and NZART Branches for 2016*

Repeater frequency and name	Repeater location	Sponsorship advised for 2016	Amount paid
53.725 Repeater	Klondyke Road	Gwynne Rowe ZL1AAR	\$50.00
144.253 Beacon	Nihotupu	Under repair	
145.625 Data Rptr	Klondyke Road	NON-operational	
145.650 Dstar repeater	Klondyke Road	L/M Mathews ZL1ICU/ZL1MYL	\$50.00
146.625 Repeater	Klondyke Road	L/M Mathews ZL1ICU/ZL1MYL	\$50.00
146.700 Repeater	Ruaotuhenua	Dennis Thornton ZL1TAY	
146.900 Repeater	Mt Puketutu Radio		
432.253 Beacon	Nihotupu	Under repair	
438.175 Dstar repeater	Klondyke Road	L/M Mathews ZL1ICU/ZL1MYL	\$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	Vaughan Henderson	\$50.00
		<b>Total Sponsorship</b>	<b>\$250.00</b>
<b>NZART Inc: Branch donations</b>			
Franklin Amateur Radio Club. Br: 10			\$200.00
Manukau Radio Club, Br: 21			\$100.00
Papakura Radio Club. Br: 65			\$500.00
		<b>Donations</b>	<b>\$800.00</b>
Prepared by Merv Thomas ZL1SK and current as at 28/3/2016			

*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 2016 or donate towards the Group's repeater Operations.*

Merv ZL1SK – [m.r.thomas@vodafone.co.nz](mailto:m.r.thomas@vodafone.co.nz)

## TRADING TABLE

Currently our Trading Table is only open on meeting nights. Opening on Saturdays may resume later in the year so keep an eye out for announcements in Spectrum.

## NEW – NEW - NEW

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



And there's

more....



## Motorola Oncore VP GPS Receivers

The VP Oncore is Motorola’s original credit card-sized 8-channel GPS receiver. It measures just 2” x 3 1/4” x 1/2”, has very low power requirements, and is well suited for embedded applications. The VP Oncore has the capability of acting as a DGPS reference station for greater position accuracy.

The units on offer have been in storage for some time, and the tinplate screen covers show some signs of corrosion – see photo. Most of the units have a sticker attached saying “Prog NMEA” and are likely to output data in NMEA V2.0 serial format.

Interface is via a 10-pin board header – see reference below for pinout details. Power supply is 5.0v +/-0.25V. Module requires an external active GPS antenna (5V power supplied by receiver module). GPS connector is a snap-on type OSX. Output data includes a 1PPS (one pulse per second) output and TTL level Tx and Rx data lines.

More details can be found at : <ftp://ftp.tapr.org/gps/motorola/oncore.eng.notes.pdf>



**\$20.00 each – limited quantity.**



**N-Type connectors for LMR-400**

**Crimp-on only. \$5.00 each**

**Other coaxial connectors available from the Trading Table:**

Please note we have sold out of TNC connectors – these are no longer available.

BNC plugs 50 ohm for RG58 coax (solder/clamp type)	\$2.50 each
BNC plugs 50 ohm for RG58 coax (crimp on type)	\$2.50 each
BNC sockets 75 ohm – single hole mounting	\$1.50 each
N Type male solder on suit RG213 coax	\$4.00 each
N Type male right angle, suit RG213 coax	\$4.00 each
N Type male crimp on suit RG213 coax **	\$3.00 each
N Type socket crimp on suit RG213 coax **	\$3.00 each
N Type male right angle, solder on suit RG213 coax	\$4.00 each
N Type male sliver plated solder/clamp on suit RG58 coax	\$3.00 each
N Type male crimp on suit RG58 coax **	\$2.50 each
N-Type adaptor Male to Male	\$3.00 each
Adaptor TNC Male to UHF Female	\$3.00 each

\*\* Crimping service available for these at club meetings.

Need Crystals for your next project?

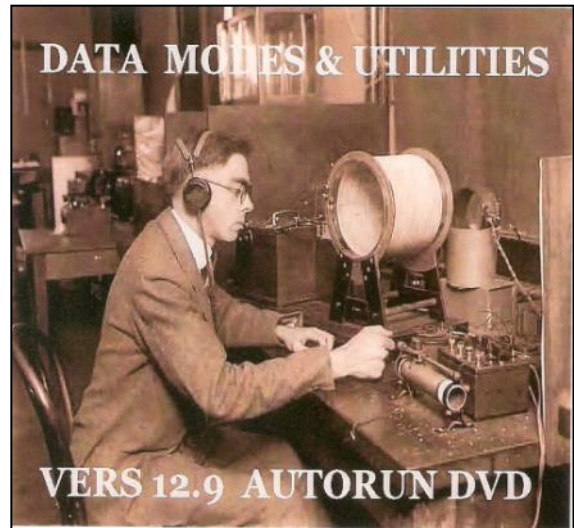
3.579545 MHz HC18/U wire ended holder	
4.194304 MHz HC18/U wire ended holder	\$1.00 each
4.1952 MHz HC18/U wire ended holder	\$1.00 each
4.33618 MHz HC18/U wire ended holder	\$1.00 each
6.000 MHz HC49/S SMD package 20pF load capacitance	\$1.00 each
8.000 MHz HC18/U wire ended holder	\$1.00 each
8.192 MHz HC18/U wire ended holder	\$1.00 each
8.867238 MHz HC18/U wire ended holder	\$1.00 each
10.000 MHz HC18/U wire ended holder (KDS Brand)	\$1.00 each
13.875 MHz HC18/U wire ended holder	\$1.00 each
14.31818 MHz HC18/U wire ended holder. Rakon J30G-4H spec	\$2.00 each
14.7456 MHz HC49/S SMD package	\$1.00 each
17.472 MHz HC18/U wire ended holder	\$1.00 each
18.432 MHz HC18/U wire ended holder	\$1.00 each
20.0000 MHz HC49S SMD package P/No.7D20000183BSAF25Q3	\$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

## 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).	\$1.00 each
MGF1302	Low noise GaAs FET Nf = 1.4dB @ 4GHz, 4dB @ 12GHz.	\$5.00 each
BFR91	NS RF Amp. 5GHz 1.9dBnf @ 500MHz	\$2.00 each
BFY90	NS 30V 50mA 2.5dBnf @ 200MHz TO72 VHF/UHF	\$1.50 each
MFE121	Dual gate N-MOSFET 20V 5mA VHF Amp BF352 equiv.	\$0.50 each
MPS5179	NS TO92 12V 50mA 200mW ft 2000MHz Nf 5.0dB RF Transistor. Use in UHF/VHF amplifiers with collector currents in the 100 $\mu$ A 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	\$1.50 each
MPS5172	NS 25V 100mA Ft 120MHz	\$0.10 each
MPS6507	NS, VHF Mixer, 20V, 100mA, Ft 700MHz [data]	\$0.20 each
MRF237	NS RF Pwr. VHF 4.0W 12V TO39	\$3.00 each
MRF559	NS RF Pwr. 806-960MHz 0.5W 12.5V	\$0.50 each
MRF904	NS RF Small signal amp. Ft 4GHz 15V TO206	\$3.00 each
2SC908	NS TO39 RF Amp 1W @ 500MHz 13.6V [data] 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)	\$1.00 each
3SK45	Packaged as ECG221, dual-gate N-channel MOSFET for vhf amp and mixer applications.	\$0.75 each
3SK73GR	Dual-Gate MOSFET N-channel 30V 7mA	\$1.50 each
3SK74L	Dual-Gate MOSFET N-Channel 20V 25mA(max)	\$1.00 each
3SK192GR	Dual-Gate MOSFET 15V 30mA(max)	\$1.00 each
2SC5488	NS 30V 70mA low noise rf pre-amp	\$0.10 each
BF199	NS 25V 25mA, 500mW ft = 550MHz TO92	\$1.00 for 10
BF494	NS 20V 30mA Low noise mix-osc/ IF amp TO-92	\$1.50 for 10
40673	Dual-gate N-Mosfet – See MFE121	\$0.50 each

**DATA MODES & UTILITIES CD**

Version 12.09 has even more updates and new programmes on this latest release. This is an excellent selection of software, notes, links to web sites compiled by the late Doug ZL1AVY and this latest edition has over 300 applications, references and notes. These cover all digital modes, useful software applications for your pc, contest logging and e-qso programmes, radio interfaces, software defined radio information, slow scan tv software, test equipment utilities, satellite tracking software, and much, much more. **Still only \$10.00**



**SMD Quartz Crystals:** In addition to our selection of leaded holders, now have 6MHz and 20MHz crystals in SMD style housings:

6.0000 MHz HC49S SMD package 20pF load capacitance \$1.00 each

20.0000 MHz HC49S SMD package P/No. 7D20000183BSAF25Q3 1.00 each



**Capacitors, Surface Mount** – most are 1206 size.

Packed in bags of 10 for 50c

NPO 50V working: 0.68pF, 1.2pF, 1.8pF, 2.2pF, 5.6pF, 6.8pF, 8.2pF, 10pF, 15pF,

22pF, 33pF, 68pF, 82pF, 270pF, 470pF, 100nF.

63V working: 10pF, 47pF, 100pF, 270pF, 330pF, 470pF, 1nF, 1.2nF, 2.2nF, 4.7nF, 10nF  
10uF 25V electrolytic

**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:



**Mixers:**

Mini-Circuits Model TFM-2-408-1:  
+17dBm LO drive, 40dB isolation  
\$25.00 each



5 – 1000MHz 6dB insertion loss,

Note: some of these mixers are labeled TFM-2-408-2. They are identical to the TFM-2-408-1.