

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



Dave Dingley describes his experience with Audio Presentation.
Now radio links can be easier to set up with better response.

The Meeting Topic — page 3

President's Column — page 4

Minutes of February Meeting and Dave Dingley — page 5

Photos from the February Working Bee at Klondyke — Page 7



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 |
|---|---|-----------|----------------------|---------------------------------|
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| Vice President | Brendon Reid | ZL1XXX | 021 970 785 | vicepresident@aucklandvhf.org |
| Secretary | Vaughan Henderson | ZL1VH | 021 844 804 | secretary@aucklandvhf.org |
| Treasurer | George Raffles | ZL1TUX | 021 735 361 | treasurer@aucklandvhf.org |
| Committee | Greg Storz | ZL1GSG | 09 849 2878 | greg@aucklandvhf.org |
| | Darryl Grange | ZL1TCI | 021 123 7733 | darryl@aucklandvhf.org |
| | Mark Howie | ZL1UMK | 022 047 3240 | mark@aucklandvhf.org |
| AREC Group Leader | Matthew King | ZL1YOT | 022 649 3310 | mattking@gmail.com |
| Deputy Group Leader | Currently Vacant | | | |
| ZL1BQ Trustee | Matthew King | ZL1YOT | 022 649 3310 | zl1bq@aucklandvhf.org |
| Head Repeater Trustee | Vaughan Henderson | ZL1VH | 021 844 804 | repeatertrustee@aucklandvhf.org |
| Klondyke Manager | Vaughan Henderson | ZL1VH | 021 844 804 | 6625@aucklandvhf.org |
| 670 Manager | Vaughan Henderson | ZL1VH | 021 844 804 | 670@aucklandvhf.org |
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| Account Reviewer | Basil Orr | ZL1TOW | 021 867 367 | |
| Webmaster | Terry Corin | ZL1BPA | 027 697 4686 | webmaster@aucklandvhf.org |
| Club Web Page: | http://aucklandvhf.org | | | |
| ZL1VHD Dstar gateway administrator: | Laurie | ZL1ICU | 634 5130 0274 817463 | perma@xtra.co.nz |
| ZL1VHD Dstar gateway registration URL : | http://zl1vhd.dstar.org.nz | | | |

Club News and Net:

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

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

SPECTRUM is the official journal of the Auckland VHF Group Inc. Opinions expressed are those of the authors and do not necessarily reflect club points of view. The closing date for SPECTRUM articles is by the 1st of each month. Articles to be submitted to the editor Peter ZL1UKG
spectrum@aucklandvhf.org

Auckland VHF Group (Inc) Branch 66

Notice of General Meeting

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

**The Auckland VHF Group Meeting will be held on Monday 14 March
at the Clubrooms, 30 Hazel Avenue from 7.30pm onwards**

Antennas — Measurement and discussion

Bring along your antenna or antennas for 6m, 2m, 70cm or higher and we will have a test range set up on the reserve from about 6pm onwards. You will be able to get some idea of how well your antenna(s) are working and maybe some suggestions about how to improve them.

Once it gets dark, we will move indoors and members are invited to give a short presentation on their particular antenna, especially if it is an unusual design.

We hope to have a guest speaker on the topic of "different" feedlines - these are mainly used at HF.

All welcome.

In keeping with current Covid restrictions, masks are to be worn.

Auckland is now in a Red Zone with regard to COVID-19

**This allows for a maximum of 100 people with Vaccine Passports inside a building
or 25 people if people don't have Passports**

The VHF Group has a QR Code poster at the entrance to identify the location you are entering. It helps to reduce the risk to the greater population by enabling tracking of possible sources of infection. The editor has experienced this in Cafés and a local Hall in Silverdale. In the Hall we are now recognised and are not asked to display it again. It will probably be the same for the VHF Group.

Coming Events:

- Sat 19 Mar, Te Puke ARC Market at 4 Old Coach Road, Paengaroa.
This has been postponed until further notice.
- Sat 21 May, Radio Electronics Group annual new & used equipment Sale at the Glenview Club, 211 Peacockes Road, Hamilton.

Auckland VHF Group President's Column

VHF Group Presidents Report March 2022

Well, it's great to have 6625 back on air again, despite a problem with the new cable tray fixings.

In anticipation of the Jock White Field Days I recently bought an HF rig, but was not able to collect it in time. I need to go for a little sail up north! The Far North. Unahi, in fact!

I missed last week's AREC meeting. Our main water pump had died so we were carrying water to the troughs until after dark with 1000l tanks on the tractor trailer. The pump, which is in the bush at the edge of the creek, is rated at 14 Amps, but the wall socket and lead were 10 Amp. The motor winders fixed the motor, and I replaced the socket and lead at about midnight and now we are up and running again.

With a bit of luck I will have a 70cm "figure eight" antenna ready for testing this Monday. 4NEC2 says it should have 12dB gain, which would be spectacular given that it can be made with only three pieces of metal strap. Watch this space.

See you Monday

Cheers, Matthew King 022 6493310



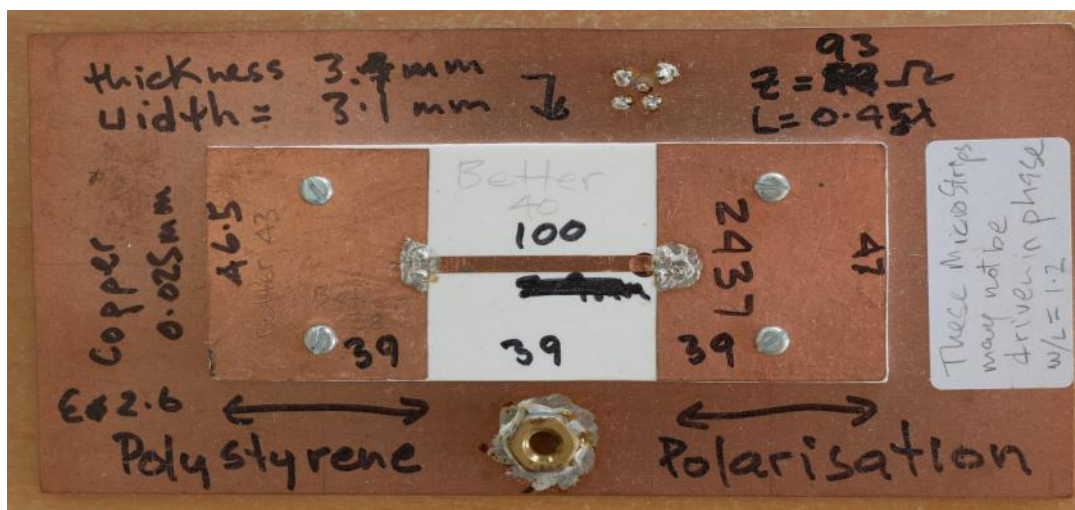
Microstrip antenna — Easy to make using single sided PCB substrate.

The dielectric is 3 mm polystyrene. First trial has Return Loss -13 dB.

A cheap experiment on the 12 cm band — the next iteration might be perfect.

Take advantage of test equipment at the Clubrooms this month's meeting.

The Editor will be walking around the Te Paki Coastal Track (even more north).



Minutes of the February General Meeting of the Auckland VHF Group Inc., held on Monday 14 February at the Clubrooms, Hazel Avenue, Mt. Roskill

The meeting commenced at 20:03

Present: George ZL1TUX, Basil ZL1TOW, Vaughan ZL1VH (Secretary), Darryl ZL1TCI, Dave ZL1TIA, Greg ZL1GSG, Graham ZL1TOF, Margaret ZL1AYV, Stephen ZL1SRP.

Present Via Teams: Matthew ZL1YOT, Brendon ZL1XXX

Apologies: ZL1TUJ

Minutes of the November 2021 General Meeting

These were published in the December 2021 issue of Spectrum on pages 8 and 9.

Motion: "That the minutes of the November General Meeting, having been published, be taken as a true and correct record of that meeting." Moved ZL1GSG Seconded ZL1TCI Carried

Reports: ZL1VH advised that the 6625 Repeater was again back on the air. Many thanks to the team who visited the site on the 5th of February. A report has been published in the February 2022 issue of Spectrum and some of the photos will appear in the March issue of Spectrum. ZL1VH showed a selection of photos from the 5 Feb working bee.

ZL1TIA moved a vote of thanks to the team that attended the working bee.

ZL1TUX – We have about 39K in the bank at the moment. We need fundraising to complete the work at Klondyke. Building insurance (Auckland Council) \$406.15 has been paid. Franklin Branch 10 had made a \$200 donation.

General Business

1. NZART Conference 2026. This conference will celebrate 100 years since the founding of NZART on 16 August 1926. Members are asked for their input on when the conference should be held. Traditionally, the annual NZART Conference is held over Queen's Birthday Weekend in June. It is proposed to move the 2026 Conference to the weekend of August 15 and 16 2026. ZL1VH gave further background on what was required to this.
2. Status Of fundraising ZL1SRP ZL1TIA has offered the Group a mini-Spectrum Analyser to raise funds for Klondyke. His aim would be to raise \$1000.00 for Klondyke. Committee needs to determine raffle tickets, suggested \$10.00 per ticket. Need to determine how we run the raffle.
3. Programme for 2022. March antenna testing/antennas. April Arduino evening. ZL1YOT will approach ??? about this. Apart from this there were no other suggestions from the meeting.

Meeting Closed at 2045

Dave Dingley ZL1TIA then took the floor to entertain us about some of his early interests in electronics and in later years audio amplifiers and public address systems.

One of Dave's early purchases were OC72 transistors. Using these in switching circuits, he soon found that they did not like the back-emf from a PO relay!

Dave cautioned about his experiences using overseas on-line “shops” like Bangood, Amazon, Alibaba, etc. Alibaba bought in job lots and once sold out, no more available. He had also noted a big increase in freight costs over the last 12 months. Bangood and Amazon offer better delivery (tracked) but even then delivery can range from 10-20 days to months.

His early exposure to audio PA systems was at School where they had an Ultimate 1956 valve PA amplifier and Tannoy horns. This was used on sports days. Ran off a genemotor and 12V battery. A 6V battery borrowed from the school tractor plus another one in series gave 12V at about 10A. Audio into the PA amplifier was from microphones with long leads. The high capacitance of these long leads resulted in poor audio into the amplifier.

Since then, Dave has had a continuing interest in PA audio and in recent years the equipment offers much better-quality sound. The biggest problem with any PA system is getting the audio to where its wanted so the intended audience can hear. Running long wires out to the PA speakers is OK if they are all located in the same area. Getting them across busy roads or to the other side of a stream or river presents challenges.

In recent years, some Chinese made 2.5GHz transmitters and receivers have become available offering stereo CD quality over distances of up to 200m. The units are less than \$60 each and come with SMA connectors and short rubber-ducky antennas. Power is 5V USB. Dave plans to experiment with an LPY antenna to try and get greater range.

He had imported a “500W” portable PA speaker to trial. Unit had a large (10”) speaker and the potential to sound quite acceptable. Dave commented that nowhere in the limited information that came with the speaker was there any definition of the 500W rating – RMS, peak music power ?? but it certainly had an RMS power rating much, much less than the claimed 500W. Power for the portable speaker originally was a 12V battery pack using Li-Po 18650 size batteries which did not last long before needing re-charging. Dave had modified the portable PA to add a 12V 50AH LiFe battery. He was able to import this without any problems. The original came with a small switch-mode charger that got very hot.

Dave also showed some very small USB audio to RF transmitters and receivers operating on 680 MHz with a claimed range of about 300m. He was in the process of evaluating these.

To conclude his talk, Dave demonstrated the portable PA speaker with the 2.5 GHz link playing his choice of music across the clubroom.

Klondyke Working Bee 5 February, 2022

The Working Bee on Saturday was well supported. See the write-up in the February Spectrum.



The Club is fortunate to be able to call on people who have professional equipment to help identify good and bad cables (Simon Watt-Wyness) and others with aloft experience to make sure that the cables in the new tray (Simon Bridger and Harry Pompe).

There has been a run of high winds at Klondyke recently that has revealed the need for more robust fastening of the tray to the tower. Where there were two narrower trays held by stainless straps to the cross beams a better means is required. Other supporters of Klondyke have experience of suitable methods which will give the reliability required. The riggers will use this product.

Simon Bridger aloft securing cables onto the tray.



Amateur Radio Emergency Communication.



Volunteers in radio communications.

Using our resources to help the community.

INFORMATION

The Auckland VHF Group has an AREC Group that works closely with Auckland Council Emergency Management. They provide advice, resources and manpower to assist in times of need.

The AREC section is headed by Group Leader Matthew King ZL1YOT.

From time to time the VHF Group has training sessions and exercises. Members also assist with sports events, parades and other community activities. For further information about AREC please see the NZART web site: <http://www.nzart.org.nz/arec/>

JOIN BRANCH 66 AREC

All members of the Auckland VHF Group are encouraged to join the AREC section. Your contribution, large or small is appreciated by all involved. For further information about joining Branch 66 AREC contact the Group Leader:

Matthew King ZL1YOT

022-6493310

mattking@gmail.com

The Deputy Leader position is currently vacant

AREC News:

Michelle Millan is the new Police District Search & Rescue Assistant Coordinator for the Tāmaki Makaurau District. This is a new non-operational role funded by NZ SAR to assist and support the Police District SAR Coordinator – a key part of the role is building relationships partner agencies.

Regards,

Soren Low

ZL1SKL / ZK1EXD

Mobile +64 21 813 541 Email:

Auckland Deputy District Manager

newsletter@arec.nz



AUCKLAND VHF GROUP (INC)

SUPPORT THE EFFORTS OF THE VHF GROUP THROUGH YOUR
SUBSCRIPTION

SUBSCRIPTIONS FOR 2022

THE SUBS GO TOWARDS;

- Maintenance and on-going improvements to beacons, repeaters and linking systems for the national system, including the Klondyke repeater site.
- Providing on-time and free access to spectrum magazine as soon as it is available.
- Providing facilities for good speakers and lecturers at our general meetings.
- Discounted access to our trading table goodies.
- Access to test equipment and technical help when needed.

FULL MEMBERSHIP **\$55.00**

ASSOCIATE MEMBERSHIP **\$50.00**

FAMILY MEMBERSHIP ADDITIONAL **\$20:00**

SEE ATTACHED MEMBERSHIP RENEWAL FORM (next page)

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

OTHERWISE WE CANNOT SEND YOU SPECTRUM!



Thought for the month:

“The most difficult thing is the decision to act. The rest is merely tenacity.”



AUCKLAND VHF GROUP INC.

P O Box 10138, Dominion Rd, Auckland 1446,
 30 Hazel Avenue, Mount Roskill, Auckland,
 Web: <http://www.aucklandvhf.org>
 NEW ZEALAND



| NAME | | | | |
|--|--|---|--|------------|
| Mr/Mrs/ Miss/Ms | Christian or given | | Surname | |
| Address | | Date:(dd/mm/yy) | | |
| | | Phone: (home) | | |
| | | Phone: (work) | | |
| Email | | Phone (Cell) | | |
| Occupation: | | Callsign: | | |
| NZART Member | Yes/No | | Branch assigned | |
| AREC Member | Yes/No | | Branch assigned | |
| Family Member 1 | (Name) | (Call) | (Email) | (Mobile #) |
| Family Member 2 | (Name) | (Call) | (Email) | (Mobile #) |
| Family Member 3 | (Name) | (Call) | (Email) | (Mobile #) |
| Category | | | | To pay |
| Membership | Full | | \$55.00 | \$ |
| New/Renewal/Change | Associate | | \$50.00 | \$ |
| Receipt # | Family (per member) | | \$20.00 | \$ |
| Donations | Klondyke Refurbishment | | | \$ |
| Auckland/Brynderwyn/ Klondyke/670/690 | Repeater Maintenance | | | \$ |
| | Data/D-Star | | | \$ |
| | Beacon/Repeater/Links/ Licences | | | \$ |
| | Other | | | \$ |
| | | | Total | \$ |
| Payment (Mark One →) | | Cash <input type="checkbox"/> Cheque <input type="checkbox"/> Internet deposit <input type="checkbox"/> | | |
| Invoice/Statement required | | <i>Please Advise Treasurer</i> | | |
| Internet | To account ASB 12-3011-0830580-00. Account name is: Auckland VHF Group Inc. Include your Name/Callsign for us to track. Note: this form needs to be sent to us to update records. Email to: treasurer@aucklandvhf.org . | | | |
| Post | The Treasurer, Auckland VHF Group Inc., PO Box 10138, Dominion Road, Auckland 1446. | | | |
| In Person | Bring this form and payment to the next club meeting, 2 nd Monday of the month or to the Committee meeting the 4 th Tuesday of the month. | | | |
| Privacy | Unsubscribe from Email Notifications <input type="checkbox"/> | | Do Not disclose contact Information <input type="checkbox"/> | |

The Auckland VHF Group Inc Branch 66 NZART
*gratefully acknowledges the sponsorship of Branch 66 Beacons, Repeaters and
 Fixed Links license fees and the Group's repeater operations by the following
 radio amateurs and NZART Branches for 2022*

2021-2022, Donations for Repeater Licences and Klondyke Refurbishment

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

2021-2022, Donations for Refurbishment

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

Total \$2,6500.00

**Klondyke Tower
Donations towards Maintenance**

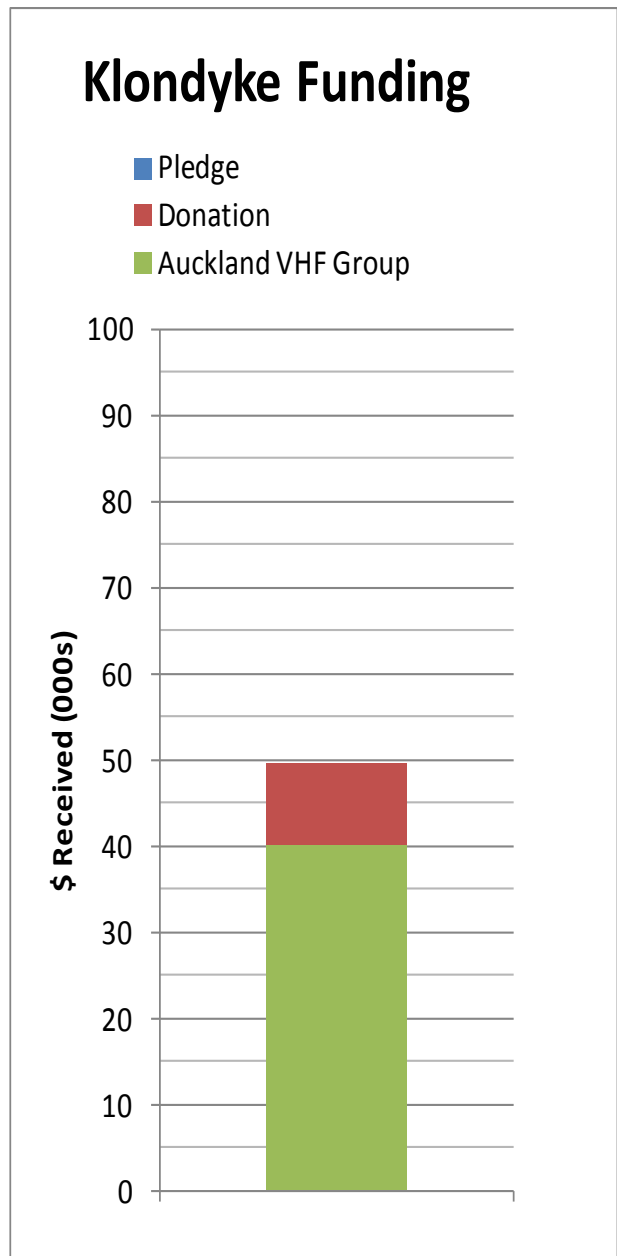
Target 100,000

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

| | | | |
|-------|-----------|-------|-----------|
| Tower | 63,245.00 | Other | 27268.25 |
| GST | 9,486.75 | | |
| Total | 72,731.75 | Total | 27,268.25 |

Auckland VHF Group 40,000.00 40.00

| | | |
|---------|---------|------|
| Total | 9699.00 | - |
| Percent | 9.70 | 0.00 |



TRADING TABLE

Currently our Trading Table is only open on meeting nights.

NEW – Printed Circuit Board. Thanks to a generous donation from N.Z.'s last circuit board production company (now closed down), we have a large quantity of single sided fibreglass printed circuit board material in sizes ranging from 1200 x 600 down to smaller pieces. There's some double sided board as well. Come along to our May meeting if you want some – prices can be negotiated!

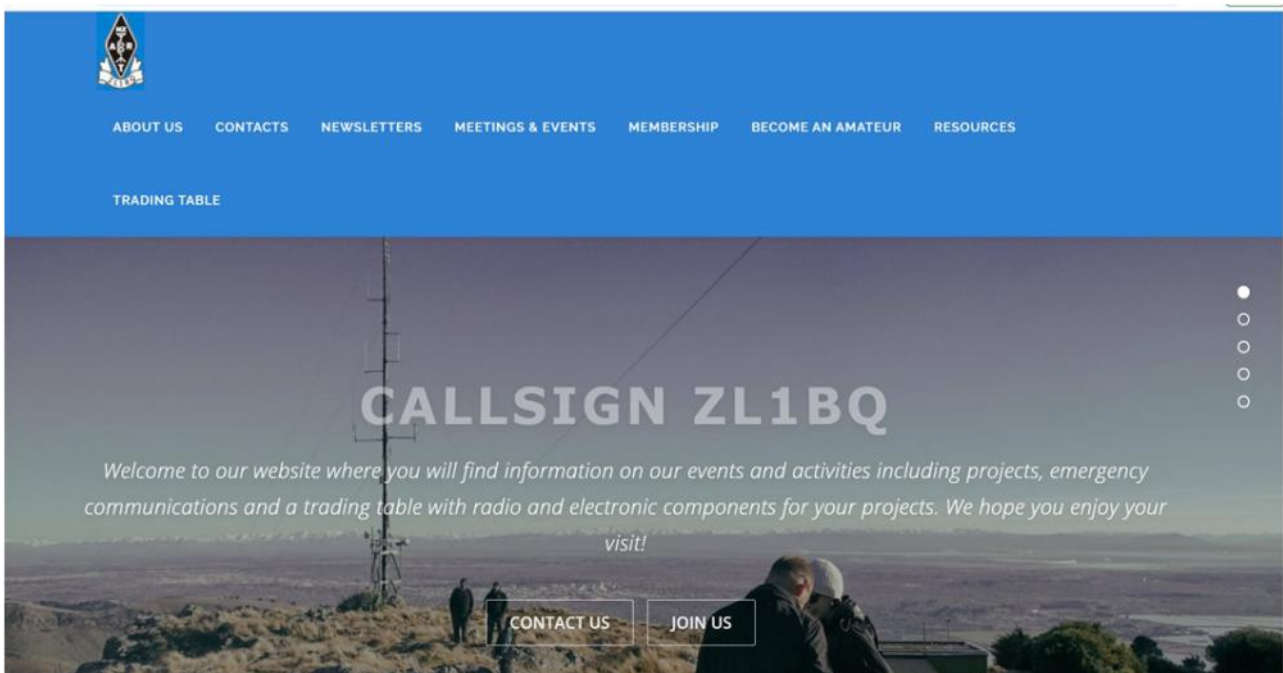
NEW – RG58C/U 50 Ohm Coaxial Cable. Thanks to a bulk purchase we are able to offer this good quality coax at a competitive price. The cable has tinned centre conductor and screen braid making it resistant to long term corrosion. The price is \$2.00 per metre with a discount for purchases of 20m or more. See Vaughan ZL1VH on meeting nights to get this quality coax cable.

The Trading Table is now on line. Navigate your way to our new look web site at <https://aucklandvhf.org/> and click on TRADING TABLE (the most right hand tab).

Wait a few seconds and the on-line version of the Trading Table will pop up. From here you can browse the various sections, dig deeper to look at what's available and even place your order online.

If you prefer to just look at the Trading Table List, just hover your mouse pointer over the TRADING TABLE and a pull down list will appear. From this you can access the full trading Table list and download it in .PDF form.

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



Recent Additions to our Trading Table Stock

| | | |
|---|---|------------------------|
| Electrolytic Capacitors SMD | (Packed in bags of 10 for 50c): | |
| 10uF 16V electrolytic | 47uF 16V electrolytic | 100uF 16V electrolytic |
| Resistors: | | |
| 50 Ohm 0.4W +/-1% tolerance. | | 10 for 50c |
| 0.25 Ohm 5W wire wound | | |
| 0.27 Ohm 3W Wire wound vertical pcb mount | | |
| Siemens Gas Surge Voltage Protection Tubes: | | |
| SVP Tube type B13-A230. 230V D.C. minimum strike voltage. | | \$1.00 for 10 |
| 2-electrode type with wire leads, pre-bent for 10mm hole spacing. | | |
| ETAL P1200 600:600 Ohm line matching transformer | | \$3.00 each |
| Quartz Crystal: 6.000 MHz HC49SMD package marked CQ6.0000 | | \$1.00 each |
| BNC plugs 50 ohm R/Angle for RG58 coax (solder/clamp type) | | \$2.50 each |
| Relays: | | |
| 12V coil, DPDT 1A non-latching (EB2-12NU) SMD package | | \$2.00 each |
| 12V coil, DPDT 1A 2-coil latching (EB2-12TNU) SMD package | | \$2.00 each |
| LED Holder panel mount 5mm Kingbright nylon in bags of 50 | | \$3.00 per bag |
| Lacing Twine black plastic, in 10m rolls. | | \$1.00 each |
| Ceramic feed-thru insulators, 500V rating, solder in. | | 50c bag of 10 |
| Semiconductors: | | |
| RURP30120 | 1200V 30A ultrafast switching diode | \$1.00 each |
| 1SS55 | Silicon switching diode. 70V 100mA DO-35 | 10/\$1.00 |
| 2N5777 | NPN Light detector, Photo-darlington 45V TO-92 | \$0.50 each |
| 2N6027 | Programmable Unijunction Transistor 40V 300mW | \$0.10 each |
| 2N6122 | NPN TO220 60V 4A 40W GP amplifier | \$0.50 each |
| 2N6292 | NPN TO220 70V 40W GP amplifier | \$0.50 each |
| 2N6609 | PNP TO3 140V 16A 150W audio/driver | \$1.00 each |
| BUK457-500B | Power MOSFET 500V 9A 150W TO-220 | \$2.00 each |
| SGP15N60 | NPN IGBT 15A 600V fast switch TO-220 | \$1.00 each |
| SGP20N60 | NPN IGBT 20A 600V fast switch TO-220 | \$1.00 each |
| UDN2965W-2 | Dual high power stepper motor driver. 20 to 50V out at 4A SIP package. | \$1.00 each |
| LM3909N | LED driver/flasher. 8-pin plastic DIL package. | \$0.5each |
| LM3911N | Temperature Controller IC. 8-pin plastic DIL package. | \$10 .00 each |
| LM3914N | LED Bar-graph driver. 18-pin DIP plastic package. | \$5.00 each |
| PIC16C54B | 8-Bit CMOS Microcontroller. 18 pin SOIC SMD package Limited quantity | \$2.00 each |