

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



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Auckland VHF Group Inc.

Branch 66 NZART

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

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	Brian Wilson	ZL1UXB	021 1639 532	
	Dave Dingley	ZL1TIA	021 782 159	
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ZL1BQ Trustee	Vaughan Henderson	ZL1VH	021 844 804	zl1bqtrustee@aucklandvhf.org
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ZL1VHD Dstar gateway registration URL :			http://zl1vhd.dstar.org.nz	
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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 Monday of the last week of the preceding month. Articles to be submitted to the editor Mark ZL1UMK spectrum@aucklandvhf.org

Auckland VHF Group (Inc) Branch 66

**The next Auckland VHF Group General Meeting
will be held on**

Monday 12 August 2024

At the Clubrooms, 30 Hazel Avenue at 7:30 pm.

Subject: Construction Night

Surface mounted components, particularly in the
Papakura Interface.

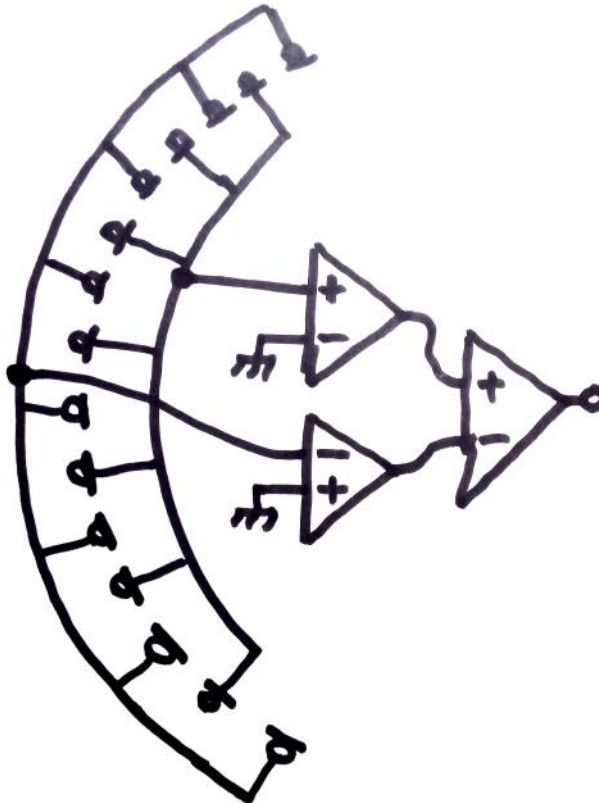
Coached by Simon, – ZL1SWW

Auckland VHF Group President's Column

Matthew King –ZL1YOT

Microphone arrays. My mind has been wandering!

Have any of you had experience with line array microphones? In the attached diagram



All the odd numbered mics are amplified by a **non-inverting** opamp (Amp 1), and the even numbered mics are amplified by an **inverting** opamp (Amp 2). The outputs of these go to a differential opamp.

So if the first two opamps are 1:1 gain, a positive pulse originating from the focal point of the arc, and having an output of 1mV from each mic will produce a 6mV positive signal from Opamp 1, and a 6mV negative pulse from opamp 2.

Any pulse signal from a source other than the focal point of the arc would produce a series of small out-of-phase ripple signals, much weaker than signals from the arc center, and some frequencies might cancel each other out, similar to comb filtering.

In a practical cct the first two opamps would amplify at maybe 10:1, to get the signals above the noise floor.

Would this work? Give me a call. Thanks

Matthew King
[02264 93310](tel:0226493310)

Gordon Bell, 1934-2024: Grandmaster of Computer Architecture, Wizard of VAX, Inventor of the UART, Founder of the Computer History Museum

by Steven Leibson (reprinted from the EE Journal with permission).

Gordon Bell may have worn badge number 80 at Digital Equipment Corp (DEC), but he had a profound influence on the development of minicomputers, including the groundbreaking DEC VAX 11/780 superminicomputer. He became a grandmaster of computer architecture and collected the flotsam, jetsam, and ephemera of computing's history, preserving the early history computers that few others would take the time or make the effort to collect. His collection became the seed for the Computer History Museum, which he helped turn into a reality with his wife, Gwen.

Bell was born in the small farming community of Kirksville, Missouri in 1934. His father owned an electrical contracting business and appliance store, and Bell grew up working in the family business. A heart condition kept him bedridden during the second grade, but by age 12, Bell was wiring local houses and farms for electric power under the federal Rural Electrification Association program. Bell's father paid his son a working person's salary of \$6 a week because he was doing a professional's work. In his Oral History recorded by the Computer History Museum in 2005, Bell recalls that he was "one of the best dishwasher repair people in the area because it had cams and cycles and mechanical stuff."

His early work experience combined with some enthusiastic math and science teachers convinced Bell that he wanted to become an engineer, because repairing stuff was "okay" but inventing them "seemed like a lot more fun." Consequently, Bell applied to several engineering-focused universities including Case Institute of Technology, Rensselaer Polytechnic Institute, Rochester Institute of Technology, Illinois Institute of Technology, and MIT. Several schools accepted Bell. He chose to attend MIT because he "apparently was brand conscious."

At MIT, Bell participated in two co-op programs with General Electric (GE) and American Electric Power (AEP). At GE, he developed a signal multiplexer for a gas turbine jet engine test stand that allowed a Leeds & Northrup multichannel chart recorder to record more temperature and pressure sensor data than its original design allowed. He also developed an analog-to-digital converter for a military radar project. However, GE had a large room containing a sea of desks for the engineers, and Bell realized he did not want to become a cog in a machine by working at such a company. At AEP, Bell wrote a program that calculated the power needed to melt accumulated ice on power transmission lines. The program ran on the company's IBM 650 Magnetic Drum Data Processing Machine, the world's first mass-produced electronic computer. Bell earned his BSEE from MIT in 1956 and his MSEE in 1957. During his time at MIT, Bell wrote programs for the MIT Whirlwind and the IBM 650 and 704 computers.

At the suggestion of Gordon Brown, MIT's EE Department head and an Australian, Bell decided to head off to Australia to teach at the University of New South Wales, which was just starting an EE department. At the University of New South Wales, Bell taught graduate classes in logic design, digital systems design, and computer design. With his friend Bob Brigham, Bell also wrote an assembler for the university's English Electric DEUCE computer.

The DEUCE was based on the Pilot ACE computer, designed by mathematician and early computer pioneer Alan Turing. Bell was already becoming familiar with the most important computer architectures of the day.

Bell went to Australia on a Fullbright scholarship. When he arrived in Australia after a 20-day ocean voyage, Bell met his wife-to-be, another Fullbright Scholar named Gwen Druyor. They rented a house with three other roommates in Sydney for the college term. By the end of the term, Bell was ready to propose marriage, and he proposed in true engineer fashion by writing a program for the DEUCE computer that caused the machine to spell out his marriage proposal in dot-matrix form using the CRT in the operator's console that displayed the contents of the computer's serial, circulating, delay-line memories as a 1024-point, 32×32-bit memory map. This was likely the world's first electronic proposal of marriage. Gwen accepted.

When they returned from Australia, Bell interviewed for positions at several companies including Philco, GE, and NCR. Ultimately, he took a position as a staff engineer at MIT's Speech Research Laboratory so that he could work near Harvard where Gwen was finishing her Master's degree. Eventually, Bell started working for MIT's Research Laboratory for Electronics (RLE) and ended up with an assignment to design a tape controller for the TX-0, an early transistor-based computer developed at MIT's Lincoln Lab. Ken Olsen managed the TX-0 project, and Wesley Clark, a physicist, architected the TX-0 and designed the computer's logic. Olsen founded DEC in 1957.

Bell needed logic modules to develop the TX-0 tape controller's design, so he turned to DEC because, at the time, transistorized logic modules – System Building Blocks, later renamed System Modules – represented the company's chief business. These modules were the conceptual predecessors of standard IC logic chips, but they had edge connectors instead of IC pins. Bell apparently spent a lot of time visiting DEC, because the company offered him an engineering job in May, 1960. Bell accepted and left RLE before he'd finished designing the TX-0 tape controller. When Bell arrived at DEC in August 1960, the company was finishing construction of its first prototype of the 18-bit PDP-1 minicomputer, which was based on DEC's System Modules using much of the TX-0's logic design. Bell wrote some software for the PDP-1, including a floating-point package, and worked on various logic design problems with the minicomputer.



Gordon Bell, circa 1960. Image credit: Computer History Museum

Then, ITT placed a very large order for specially configured PDP-1 minicomputers. These custom machines would be used in ITT's torn-tape teletype business, which was a paper-tape version of a store-and-forward messaging network. Teletype messages would come into ITT's central office on 5-bit Baudot Teletype machines, and these messages with their final destinations would be punched onto paper tapes, handed to human runners, and then taken to the appropriate Teletype machine that was connected to telegraph lines that would convey the message to its final destination.

The custom-built PDP-1 minicomputers, which were redesignated as ADX 7300 machines, would replace the intermediate paper tape steps and the runners, who often wore roller skates to speed the message forwarding. This automated message-forwarding scheme required interfacing the PDP-1 minicomputers directly to the telegraph lines, replacing the Baudot Teletype machines. That's when Gordon Bell invented the first UART (universal asynchronous receiver/transmitter).

Prior to the UART's invention, electronic conversion of Baudot signaling was usually performed with monostable multivibrators (one-shots) that needed a lot of analog tweaking using potentiometers to set the timing just right. This scheme was susceptible to drift due to time and temperature. Bell's all-digital UART oversampled the incoming Baudot signaling, found the center of each serial bit, and assembled a parallel word using a precise bit-rate clock, a state machine, and a shift register. Bell's design required fifty of DEC's 4000 Series low-speed (500KHz) System Building Block modules to implement eight Teletype interfaces. The UART became the fundamental building block used for serial communications over the next several decades. DEC made between 40 and 50 PDP-1 minicomputers, and nearly half of them were configured as ADX 7300 machines for ITT.

Bell's experience with DEC's lower-cost, lower-speed logic modules came in handy for his next project. He became the project engineer for the 18-bit PDP-4 minicomputer, specifically designed for process control. Bell did not bother to make the PDP-4 compatible with the PDP-1 because he'd not yet learned the value of software compatibility. In fact, the industry as a whole had not yet learned this lesson. Because the PDP-4 was being designed as a process control computer, software compatibility with the PDP-1 didn't seem important to Bell, and he optimized the design for cost. The resulting computer's sales price was less than half that of the PDP-1. DEC based the architectures of the PDP-7, -9, and -15 minicomputers on Bell's PDP-4 design.

Next, Bell tackled the design of the 36-bit PDP-6 minicomputer. This machine had many advanced architectural features, but DEC sold only 23 of them and decided to discontinue the architecture. However, DEC eventually reversed this decision and re-implemented the PDP-6 architecture using Flip-Chip modules, the successors to the company's Systems Modules. The new machine, called the PDP-10 (later the DECsystem-10), was extremely successful and was widely adopted by many universities and other institutions.

At this point, Bell decided to take a sabbatical from DEC. He became an Associate Professor at Carnegie Institute of Technology (soon renamed Carnegie Mellon University) and spent six years teaching computer science and writing. He started writing his first book, "Computer Structures: Readings and Examples," with colleague Allen Newell in 1968 and published it in 1971. Bell started collecting bits and pieces of early computers during this time.

A second edition of this book appeared in 1982 and another book titled “Computer Engineering: A DEC View of Hardware Systems Design,” written with colleagues J. Craig Mudge John E. McNamara, appeared in 1978.

While teaching and writing at Carnegie, Bell consulted for DEC on several projects including DEC’s most successful minicomputer, the 16-bit PDP-11. DEC sold about 600,000 PDP-11 minicomputers over its many iterations and generations. Bell also consulted for several other computer companies, further enriching his deepening knowledge of computer architectures. When Bell finally returned to DEC in 1972, it was as the company’s VP of Engineering.

Shortly after his return to DEC, Bell’s engineering team started thinking about a next-generation minicomputer. The decision to extend the PDP-11’s architecture produced DEC’s first superminicomputer, the 32-bit VAX. “VAX” is an acronym for “Virtual Address eXtension,” and the VAX was a 32-bit extension to the PDP-11 architecture that used virtual memory addressing to exploit a very large address space. DEC sold VAX superminicomputers from 1977 through 2000. The VAX models were the pinnacle of DEC’s minicomputer prowess.

Bell suffered a heart attack during a ski trip in early 1983, likely from continuing friction with Ken Olsen combined with his longstanding heart condition. He soon resigned from DEC. However, he recovered after a few months and founded Encore Computer, which released a shared-memory, multiprocessor machine in 1985. In 1986, he joined Ardent Computer Corp, a desktop multiprocessing supercomputer maker, as VP of Engineering. Bell started to consult for Microsoft in 1991 and joined the company in 1995 to work on telepresence.

In the background, Bell’s hobby of collecting bits and pieces of the computer revolution, including entire computers, evolved from a small static display, tucked into a converted coat closet in DEC’s ML-12 building in Maynard Massachusetts, into the Boston Computer Museum, which he co-founded with his wife Gwen in 1979. Gwen Bell served as the museum’s first president for 20 years. After a few iterations, that institution became the Computer History Museum located in Mountain View, California. The Bells divorced in 2002. Gordon Bell married Sheridan Sinclair in 2009.

Many people have made important contributions to the computer’s development since the days of ENIAC. Some of these people are considered pioneers. Some are considered giants. Bell was clearly both. I can think of no one who has done more for the computer’s evolution than Gordon Bell, the Grandmaster of Computer Architecture. Gordon Bell died on May 17, 2024.



The PDP-11 Computer

Hamilton Amateur Radio Club

Market Day

Gordonton Hall

1024 Gordonton Rd (SH 1B)

Gordonton

Saturday 31 August 2024

Vendors from 8am

Selling begins at 10am

\$2 Entry / Raffle

Do you have a contribution for Spectrum?

Any and all contributions, would be welcome.

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

Mark Howie

ZL1UMK

Spectrum Editor

Auckland VHF Group Subscriptions are due by 30 June 2024 for the 2024-2025 year.

Subscriptions are now being accepted for the 2024-2025 year, 1 July 2024 to 30 June 2025.

This coincides with the financial year for the group, which ends 30 June 2024.

A Subscription notice will be sent out in June to club members who had not renewed their subscription at that time.

Note on Subscriptions:

- a. There is an increase in the Ordinary (Full) Members subscription for the 2024-2025 subscription year.
- b. All subscriptions terminate on 30 June.
- c. Your present subscription will run for two-months till 30 August, then your subscription drops to an in-active membership list. (As per the constitution)

Subscription Type	Subscription Price
Ordinary Members (Full)	\$70.00
Associate Members	\$55.00
Family Members	\$25.00

- For Family Members, one person needs to be an Ordinary Member, and then each additional person then becomes a family member.
- Subscription prices are determined at the AGM preceding the year being implemented (7 months ahead of the end of financial year)

73

George ZL1TUX

Treasurer,

Auckland VHF Group Inc.



AUCKLAND VHF GROUP INC.

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 Email: treasurer@aucklandvhf.org
 Web: <http://www.aucklandvhf.org>
 NEW ZEALAND



		Date Completed:	
Mr/Mrs/Miss/Ms	Forename	Surname	
	Address1	Phone: (home)	
	Address2	NZ Post Code	Phone: (work)
	Town/City	Phone (Mobile)	
	Email	Phone (Cell)	
Occupation:			Callsign:
NZART Member	Yes / No	Branch assigned	
AREC Member	Yes / No	Branch assigned	
Family Member 1	(Name)	(Call)	(Email) (Mobile #)
Family Member 2	(Name)	(Call)	(Email) (Mobile #)
Family Member 3	(Name)	(Call)	(Email) (Mobile #)
New/Renewal/Change	Membership Category		To pay
	Ordinary (Full)		\$70.00 \$
	Associate		\$55.00 \$
	Family (per member after 1 full member registered at same address)		\$25.00 \$
Donations	Klondyke Refurbishment		\$
	Repeater Maintenance		\$
	Data/D-Star		\$
	Beacon/Repeater/Links Licences		\$
	General Club Donation / Other		\$
		Total	\$
If require Invoice / Receipt		Payment (Mark One →)	Cash <input type="checkbox"/> Internet deposit <input type="checkbox"/> Other: <input type="checkbox"/> Credit Card <input type="checkbox"/>
Internet	Account ASB 12-3011-0830580-00. Account Name: Auckland VHF Group Inc. Include your Name/Callsign for track. Note: this form needs to be sent to us to update our records. Email to: treasurer@aucklandvhf.org . (Especially if Contact information has changed)		
Credit Card	Membership Link: tinyurl.com/avhfg-membership-form		
Post	The Treasurer, Auckland VHF Group Inc. PO Box 10138, Dominion Road, Auckland 1446.		
In Person	Bring this form and payment to the next club meeting, 2 nd Monday of the month or to the Committee meeting the 4 th Monday of the month.		
Privacy	Unsubscribe from Email Notifications <input type="checkbox"/>		Do Not disclose contact Information <input type="checkbox"/>
	Unsubscribe from Google Groups <input type="checkbox"/>		

Club use only:	<input type="checkbox"/>	Approved:	<input type="checkbox"/>	Not Approved:	<input type="checkbox"/>
Sponsored by*			Sponsor's Callsign*		
*New members only.	Date:				

The information requested is for membership records required to be maintained under the Incorporated Societies Act and having due regard to the provisions of the Privacy Act

New Members and Membership Renewal Form 2024_v10 2024-08-16.pdf

15 July 2024, Donations for Repeaters Licences							
2023-2024-2025 Repeater Licences							
	Operation	On Air	Location	Donor name	Call sign	Donation	Date
53.725	Repeater	✓	Klondyke Road	Gwynne Rowe	ZL1AAR	\$50.00	30 November 2025
144.253	Beacon	✓	Nihotupu (Testing Clubrooms)	Terry Corin	ZL1BPA	\$50.00	30 November 2024
145.625	Data Rptr	✗	Klondyke Road				30 November 2023
145.650	D-Star Rptr	✓	Klondyke Road	Terry Corin	ZL1BPA	\$50.00	30 November 2024
146.625	Repeater	✓	Klondyke Road	David Wilkins	ZL1MR	\$50.00	30 November 2025
146.700	Repeater	✓	Ruaotuwheua	Terry Corin	ZL1BPA	\$50.00	30 November 2024
146.900	Repeater	✓	Mt Puketutu Radio	David Wilkins	ZL1MR	\$50.00	30 November 2025
432.253	Beacon	✓	Nihotupu (Testing Clubrooms)	Terry Corin	ZL1BPA	\$50.00	30 November 2024
438.175	D-Star Repeater	✓	Klondyke Road	Terry Corin	ZL1BPA	\$50.00	30 November 2024
438.500	Repeater	✗	North Head				30 November 2023
439.850	Link TX to Kaimai	✓	Klondyke Road	Russell Richardson	ZL1RWR	\$50.00	30 November 2025
439.875	Ak Nat System Rptr	✓	Klondyke Road	Soren Low	ZL1SKL	\$50.00	30 November 2025
439.900	Link TX to Egmont	✓	Klondyke Road	Russell Richardson	ZL1RWR	\$50.00	30 November 2025
439.950	Link TX to Brenderwyn	✓	Klondyke Road	Terry Corin	ZL1BPA	\$50.00	30 November 2024
1291.900	Repeater	✓	217 Glenfield Rd	Ian Ashley	ZL1AOX	\$50.00	30 November 2025
439.700	DMR Repeater (Waitaker	✓	Quinns Rd				30 November 2023
			Number of Donors			\$650.00	
The Light Brown Repeater Licences are available for Sponsorship \$50.00 per licence							

2023-2024-2025,		General Club Donations		4 July 2024
Donor	Amount	Date Paid		
2024 - 2025				
2024 - 2025	\$0.00			
2023 - 2024				
New Zealand Electronics Institute	\$50.00	25-May-2024	Club Donation	
Estate of Roy Milam, ZL1WI	\$10,000.00	10-May-2024	General Donation	
Martyn Seay, ZL3CK	\$100.00	09-May-2024	General Donation	
Estate of Kenneth Boyce, ZL1TD	\$5,000.00	05-Dec-2023	General Donation	
New Zealand Vintage Radio Society	\$550.00	05-Dec-2023	Donation Club Usage	
New Zealand Electronics Institute	\$50.00	24-Sep-2023	Club Donation	
Brian Wilson, ZL1UXB	\$1.00	12-Sep-2023	General Donation	
2023 - 2024	\$15,751.00			
2022 - 2023				
Harry, ZL1BK	\$100.00	31-Oct-2022	General 50 Year Clubrooms	
New Zealand Vintage Radio Society	\$480.00	10-Aug-2022	Donation Club Usage	
2022 - 2023	\$580.00			
Total 2023 - 2024 - 2025	\$16,331.00			
Total 2023 - 2024	\$16,331.00			

Repeater Maintenance Donations		4 July 2024		
Donor	Amount	Date Paid		
Papakura Radio Club	\$500.00	06-Nov-2023	Repeater Operation Donation	
Murray McGehan	\$50.00	22-Oct-2023	Repeater Maintenance Donation	
YURI MYZUKA, ZL1GYM	\$20.00	13-Jun-2023	Repeater Maintenance Donation	
XIANGHUI LUO, ZL1XL	\$20.00	13-Jun-2023	Repeater Maintenance Donation	
Papakura Radio Club	\$500.00	02-Dec-2022	Repeater Operation Donation	
Manukau Radio Club	\$150.00	19-May-2022	Repeater Operation Donation	
Total	\$1,240.00			

ATV Repeater Donations / Fund,		30 June 2024,		
Donor	Amount	Date Paid		
Michael Sheffield, ZL1ABS	\$207.50	12-Jul-2021	ATV Repeater Donation	
Total	\$207.50			

Klondyke Refurbishment Donations		
2021-2022	As of 30 June 2022	
Jim Logan, ZL1DI	\$20.00	10/05/2022
Philip Sharp, ZL1PSH	\$15.00	14/03/2022
Margaret Dingley, ZL1AYV	\$205.00	11/10/2021
George Marr, ZL1TUJ	\$50.00	13/12/2021
Total 2022	\$290.00	
2020-2021	As of 30 September 2021	
Margaret Dingley, ZL1AYV	\$100.00	9/11/2020
David Dingley, ZL1TIA	\$100.00	9/11/2020
Jennie Dingley, ZL1TDB	\$100.00	9/11/2020
Yuri Muzyka, ZL1GYM,	\$50.00	23/11/2020
Martyn Seay, ZL3CK	\$500.00	1/12/2020
Martyn Seay, ZL3CK	\$100.00	14/06/2021
Yuri Muzyka, ZL1GYM,	\$50.00	13/09/2021
Total 2021	\$1,000.00	
2019-2020		
Charles Graves	\$15.00	7/10/2019
Ian Ashley, ZL1AOX	\$500.00	9/10/2019
Keith Dix, ZL1BQE	\$50.00	10/10/2019
Margaret Dingley, ZL1AYV	\$100.00	15/10/2019
David Dingley, ZL1TIA	\$100.00	15/10/2019
Jennie Dingley, ZL1TDB	\$100.00	15/10/2019
Russell King, ZL1WITT	\$20.00	13/11/2019
Basil Orr, ZL1TOW	\$500.00	9/12/2019
Raffle - Meter	\$289.00	10/12/2019
Martyn Seay, ZL3CK	\$100.00	9/03/2020
Brenton Faithfull, ZL1BBF	\$50.00	11/06/2020
Mark Howie, ZL1UMK	\$20.00	10/08/2020
George Marr, ZL1TUJ	\$50.00	10/08/2020
Total 2020	\$1,894.00	
2018-2019		
Western Suburbs Radio Club	\$200.00	11/11/2018
Michael Sheffield, ZL1ABS	\$500.00	11/11/2018
Ross Glover, Z1BGB	\$50.00	12/11/2018
Andrew Brill, ZL1COP	\$100.00	5/11/2018
Martin Seay, ZL3CK	\$50.00	8/11/2018
Aaron Pelly, ZL1FAT	\$10.00	8/11/2018
Cris Hodgetts, ZL1CLH	\$20.00	8/11/2018
David Crosier, ZL1THF	\$20.00	8/11/2018
Ann Walker, ZL1BFB	\$20.00	8/11/2018
Bruce Churcher, ZL1BLB	\$20.00	8/11/2018
Klondyke Raffle @ Western Suburbs Sale	\$180.00	8/11/2018
Dennis Thornton, ZL1TAY	\$50.00	12/11/2018
George Raffles, ZL1TUX	\$100.00	17/11/2018
Keith Dix, ZL1BQE	\$100.00	10/12/2018
Franklin Radio Club, ZL1SA	\$800.00	12/12/2018
Manukau Branch, ZL1QB	\$100.00	12/12/2018
Terry Corin, ZL1BPA	\$1,000.00	28/12/2018
Keily Petersen, ZL1KM	\$150.00	22/01/2019
North Shore Branch 29, ZL1AB	\$100.00	22/01/2019
Gilbert Ecroyd, ZL2EK	\$100.00	5/03/2019
Dave Blackett, ZL1AD	\$50.00	8/03/2019
Ian Sexton, ZL1PZ	\$500.00	13/03/2019
Auckland Branch, ZL1AA	\$100.00	13/03/2019
Ralph & Rosemary Boshier, ZL4AG & ZL1RO	\$40.00	13/03/2019
Nick Emery, ZL1BOP	\$50.00	16/04/2019
A. Kelvin McLean, ZL1AKM	\$20.00	16/04/2019
Soren Low, ZL1SKL	\$100.00	22/04/2019
North Shore Radio Club, ZL1AB, Branch 29	\$1,500.00	17/05/2019
Brendon Reid, ZL1XXX	\$20.00	10/06/2019
Auckland Branch, ZL1AA	\$500.00	8/07/2019
Gary Ball, ZL1FAB	\$20.00	1/08/2019
Total 2019	\$6,550.00	
Klondyke Total (11 November 2018 to 30 June 2024)	\$13,303.16	
Klondyke Total (1 June 2022 to 30 June 2024)	\$3,569.16	
Klondyke Total (11 November 2018 to 30 June 2022)	\$9,734.00	

Klondyke Refurbishment Donations			
2024-2025		As of 15 July 2024	
Rob Stokes, ZL1RJS	\$30.00		3/07/2024
Total 2025	\$30.00		
2023-2024		As of 30 June 2024	
Murray McGehan ZL1OD	\$190.00		14/05/2024
Keith Dix, ZL1BQE	\$30.00		7/05/2024
Russell Richardson, ZL1RWR	\$100.00		7/05/2024
Yuri Muzyka, ZL1GYM,	\$140.00		8/04/2024
Cary Rawson, ZL1CLR,	\$50.00		20/12/2023
Rob Stokes, ZL1RJS,	\$40.00		6/11/2023
Total 2024	\$550.00		
2022-2023		As of 30 June 2023	
Donation,	\$10.00	\$250.00	13/06/2023
Ian Ashley, ZL1AOX	\$40.00		12/06/2023
Russell Richardson, ZL1RWR	\$100.00		10/06/2023
Martyn Seay, ZL3CK	\$100.00		10/06/2023
George Raffles, ZL1TUX	\$199.16	\$199.16	12/05/2023
MiniSA (Donated by ZL1TIA) / RF Signal Source (Donated by ZL1VH) for Klondyke Refurbishment	\$270.00	\$270.00	19/12/2022
Estate Ian Sexton ZL1PZ	\$950.00	\$2,300.00	27/07/2022
Estate Tony Babish ZL1ATE	\$500.00		27/07/2022
John Sexton ZL1AQS	\$750.00		27/07/2022
George Marr, ZL1TUJ	\$100.00		19/07/2022
Total 2023	\$3,019.16		
Klondyke Total (11 November 2018 to 30 June 2025)	\$13,333.16		
Klondyke Total (11 November 2018 to 30 June 2024)	\$13,303.16		
Klondyke Total (1 June 2022 to 30 June 2024)	\$3,569.16		
Klondyke Total (11 November 2018 to 30 June 2022)	\$9,734.00		



**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

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 monthly 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.

