The Official Newsletter of the

PAPAKURA RADIO CLUB INC.

November 2024

Let's talk to each other

CONTENTS ...

November Meetings:

The November Meeting will be followed by our AGM. There will not be a guest speaker, But we are seeking your input on Fees for the next year. And as well as the Election of Officers, we need your input on the direction of the Club going forward. This is an important part of the year, so please do your best to attend.

If transport is a problem, let the committee members know, and we may be able to assist with arranging a ride for you.

Alternatively, ask zl1nux@outlook.com for the teams link, and you can join us from home.

November Dates

Wednesday 6th	**General Meeting & AGM**
Wednesday 13th	**Tait VFO Project**
Wednesday 20th	**Committee Meeting**
Wednesday 27th	**Tait VFO Project**

Notice of Papakura Radio Club (Inc.)

Annual General Meeting 6th November 2024 at 20:00

At the Clubrooms, Wellington Park

Business:

To receive reports
Financial statement
Election of Officers
Election of accounts reviewers
Appointments
Donations
Any other business.

Ian Ashley, ZL1AOX
Secretary

Officers Reports:

Presidents Report:

So, it's the end of another year, and a time to look back and see what state our club is in. In the many reports that follow you will see that we have an active AREC, we have added some new hams, and we remain financially sound. This is good news and shows that your elected committee have managed to keep the club in a healthy state.

We have also had some very interesting projects this year, Thanks to Keith Dix, The project designer, and David Karasch, who has put the kits together, and taken care of the financial bits. So a big shot out to them both. The Power Distribution Boards, Soundcard modems and the Tait radio project have been well received and it's been good to see members building them.

The work we did on updating our constitution, to protect our incorporated status, has served us well, and we have not only been able to look after our own resources, but have been able to assist Manukau and AREC, as they have wrestled with the consequences of law changes to prevent money laundering. Well done to Davind and Mike who worked through the act with great determination to put ius in such a good position.

Sadly after so many new hams getting licensed, our roles remain pretty stagnant, so its weighed heavily on our minds as to how we do two things: 1. Help more people learn about the hobby and then get past the exam hurdle, and 2. How do we get them to attend meetings?

Amateur radio is currently getting some very well deserved, and positive attention, Even the traditional media has begun to see value in the work of "Hams", but sadly this is not where the bulk of our target audience get information from anymore, and the question of how do we reach an audience that is looking to social media, rather than books or TV to get information. Its not an easy question, and it will take more than a YouTube channels, it will take a concerted effort of outreach in places where few of us venture. And maybe we need to ask if the PDF newsletter is still the way to go forward. Or does our future lie in the Blogosphere, podcasting or Vlogging spaces?

Our challenge is not unusual, Its one where we are aging, and the younger enthusiasts are not taking over, How do we bring young blood, and new ideas to the table? The changes wont be easy, and will stretch us, but as the world changes, we will have to change with it.

Over the summer months we will be taking the opportunity to give the rooms some well-deserved maintenance and a freshen up, along with a floor polish, Some is already done, such as painting, But a roof clean, some electrical servicing and a clean of the Air condition filters will keep us on top of our biggest asset.

Yet despite this ongoing maintenance challenge, our clubs resources and facilities are in high demand. And the investment of many years is still working for the good of the members, and also the community. Our Sunday Morning nets are well attended, and its good to hear a number of callsigns popping up on the repeaters. So our club is in good health.

We, as a committee, have considered the running costs of the club, and have looked at fee structures. While we have raised our hall rental fee's we will be recommending no increase in the membership fees for the coming year. Instead, we will be actively seeking for all members to decided to become a fee paying transmitting member of the Papakura Radio Club.

We are also recommending a different method of calculation of the donation we make on behalf of our members to the VHF group, Paying on the number of financial members, rather than a fixed amount. This will prevent the situation of previous years, where our entire membership fee ended up being passed to the VHF group.

So in short, as we prepare to pass the reigns of the committee to our replacements, or not as the case may be, I am grateful to be able to present, on behalf of the committee, a club with a solid membership, A well maintained building, a sound financial position, a history of good ethical and financial practices and a healthy membership.

I have been privileged to serve this term as chair of the committee, and to serve the members. Thank you to all for your support.

Gavin Denby
ZL1NUX

Secretary's report

Papakura Radio Club Inc. 2024 Reports

Awards Report:
No applications for awards were received this year.

Hall Custodian: Ian ZL1AOX.

Two key boxes were installed in October 2015 to make it easier for access by Members and Committee when required and this seems to be working OK.

Hall Cleaning duties were carried out by David ZL1DK and John Feenstra. Thanks to all others for helping out. We thank the Healing Hands and our other users for maintaining the hall in a clean condition.

Our main user is the Healing Hands Spiritualist Church who use the Hall every Sunday and on some Friday evenings.
The Papakura Floral Art Group and the Papakura Garden Club are our other two regular users on the second and third Tuesday of each month.

Other groups aligned to Healing Hands have also used the Clubrooms during the year.

The Papakura Branch of the National Party have signed up for regular meetings on the 3rd Sunday of each month for this year and 2024. Times 1500 to 1700
The NZ Labour Party are also holding regular meetings usually on Monday evenings

The Coastguard made use of the hall for their Crossing the Bar forum again this year with over 50 attending.

NZ First Party have also used the hall three times during the year and Ambulance EMT training have used the Hall and may hold more refreshers in the future.

The installation of three air conditioners was a major improvement to the Clubrooms in 2019-20 are working well.

The Club's Audo Visual & sound system has been improved during the year thanks to Ian ZL1IRC, Rob ZL1RJS and David ZL1DK.
Thanks also to Rob ZL1RJS for the new 75-inch TV screen which is used on a regular basis.

Ian Ashley, ZL1AOX, Secretary, Papakura Radio Club Inc.
16th October 2024.

Treasurers report

This financial year (1 October 2023 to 30 September 2024) has been notable in that we made a small trading profit, compared to the loss in 2023. This was due to our hall hire and investment interest income significantly increasing. Hall Hire was up 61% and Interest over double at 115%. Unfortunately our subscription income was down by 20%. We need to ensure our members and those who were previously members get prodded via email every time they receive a magazine to pay their subscriptions.

The increase in membership from new Ham Cram complimentary members, will only be sustained if they get converted to full membership through wanting to become members. A survey of members should help us identify what current and new members want from the club so we can maintain a dynamic and enthusiastic membership and attract a cohort of younger people to the hobby.

Whilst interest rates increased over the previous year, now that inflation is better controlled, rates will gradually drop over time. The bank generally deducts Resident Witholding Tax (RWT) automatically so we don't usually have to top-up the tax payments by much each year. We have previously claimed a $1000 income deduction prior to paying tax on the balance of the profit. Last year we couldn't claim that deduction as we no longer had a compliant constitution. As we had made a loss it was a moot point anyway and we received an RWT tax refund.

Last year we updated our constitution and as we are now compliant with the latest Incorporated Societies Act 2022 requirements IRD should accept our claim for deducting the first $1000 of income before calculating tax on the balance.

Expenses have been fairly consistent with other years. Electricity costs continue to creep up by 5.6%this year. We have spent a lot more on Repairs and Maintenance (R&M) through painting materials, more parts for the Zip hot water heater, and other items (up 105%). Thanks to John, Ian, Gavin, Richard, David and the rest of the volunteers who help out on working bee days. The insurance premium increased by 2.3%. On the other hand postage charges have disappeared and there is no longer any PO Box rental to pay! Depreciation has also increased by 48% as we purchased several items of audio visual equipment which have a short book life.

Hall hire was last increased in the 2022 year. In my last report I suggested waiting until this year to consider an increase. The Committee has carried out a review and has increased rent for all types in order to recoup the current rate of inflation and increases in R&M and other costs. The Committee has

also agreed to another increase for the 2026 year which should put the club in a stronger position as we likely need to pay for some work to be done on the clubrooms in the next couple of years.

The Club has also taken on the task of looking after the balance of funds from the Manukau Radio Club after the club closed down. We are holding those funds for the benefit of ham radio in the Auckland Area and will need to figure out how best to meet the wishes of the last two members of the Manukau Club.

Auckland AREC also had a bank account with funds obtained over the years to support AREC activities around Auckland. Due to various new banking rules around money laundering coming into effect, the ASB account where the money was held had to be closed down. The Committee kindly agreed that PRC take on the custodial management of those funds as well until a more permanent AREC system can be created.

With our current level of funds on term deposit we have sufficient to tide us over for any major maintenance that may arise. Our insured value includes the cost of demolition and rebuild so if we did suffer a catastrophic loss we should be able to rebuild in a timely manner. We must remain vigilant though and ensure we increase our insurance every now and then to match expected replacement costs.

Thanks to the reviewers of their diligent oversight of the club accounts, and to the committee members for putting their time and effort in to managing the affairs of the club in a sensible and conservative manner.

Financially the club is in good heart and members can look forward to another successful year in 2025.

David Wilkins ZL1MR
Treasurer Papakura Radio Club

2024 Examination Administration Report:

This year we have five new hams who sat and passed the radio exam at Papakura Club rooms this financial year. Gavrilo who sat in the middle of December 2023 and the others sat in August 2024. Thanks again to Gavin ZL1NUX who did the ham cram and to David ZL1DK and helpers who assisted with the refreshments.

Congratulations to all the following candidates: -

Gavrilo Kovacevic	ZL1GVK
Stephen (aka Max) Million	ZL1MIL
Oscar Million	ZL2OMD
Aaron Mawkes	ZL2BGA
Roseanne Emery	ZL1RSE

If you hear them up, on the air, please listen out and give them a call. They may still be looking for their fifty contacts. Welcome to the Airwaves and the Papakura Radio Club.

Well done and enjoy the hobby.
If you know of anyone interested and wanting to become a radio ham, please let me or any of the committee know and we can do the rest. Our contact details are always on the back of the Papakura Club's newsletter.

73 de Rob ZL1RJS

AREC Report

Papakura AREC report for the year 2024

A few changes in the AREC setup nationally, the District Manager role has been disestablished and replaced by a Regional Manager, in our case he is Steve Main based in Gisborne. Steve has made several visits to Auckland and to our clubrooms a couple of times to meet our members.
The members who are attached to Auckland Land SAR have been called out approximately four times to short searches and to the two Auckland SARex's.

Several members have been attending the CRG (Community Response Group) meetings held each month at various locations around Papakura.

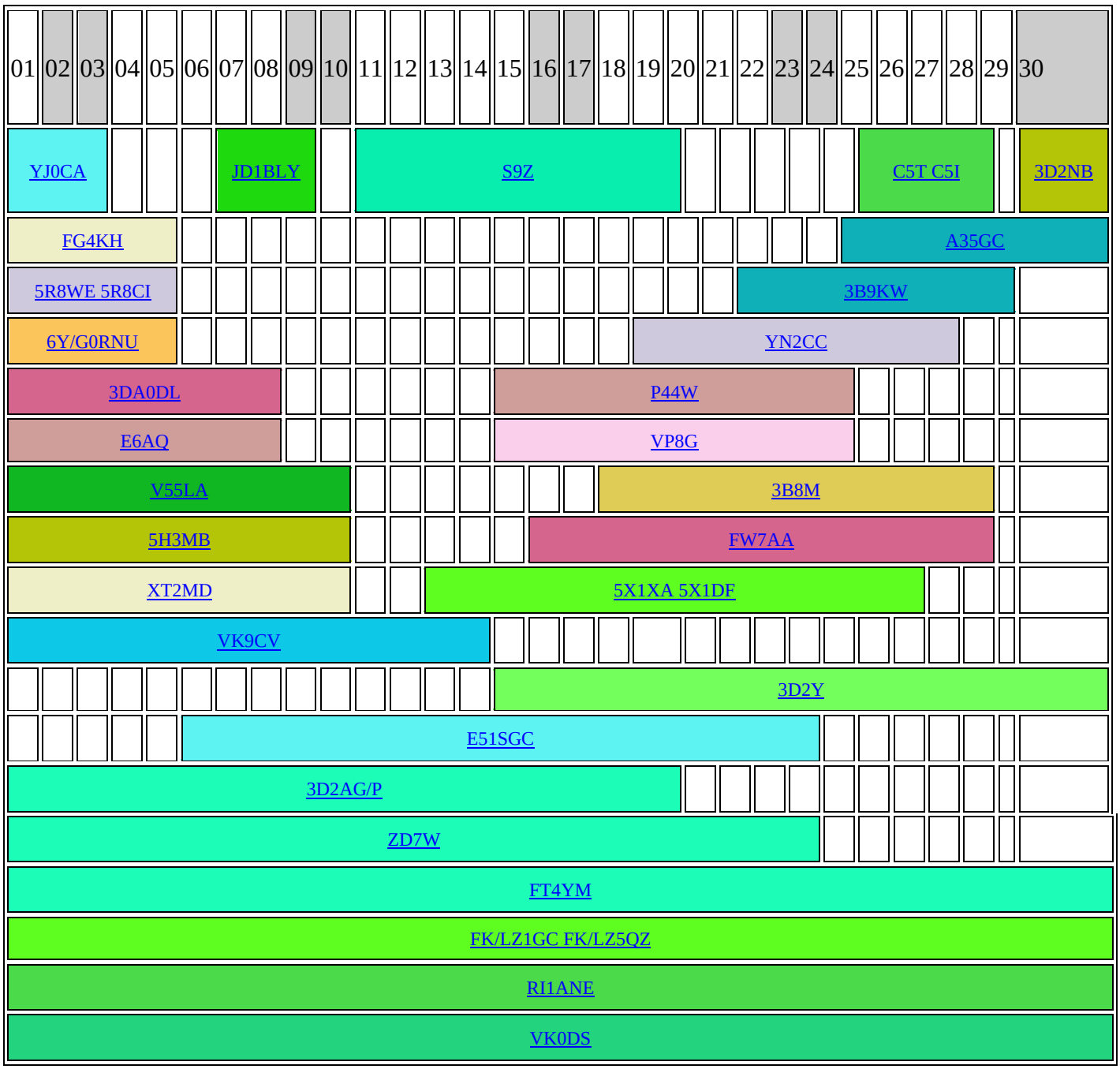
The Car Rallies events which we supply safety communications for has dropped away due to the drop in cars available for these events, we still attend the International Rally of Whangarei and even this is struggling to get a full field of cars.

Radios have been added up stairs to the comms rooms to cover LSAR, AEM/CD Marine, PRS, and various UHF links to the Auckland HF and VHF sites, new antennas have been added to the poles outside to connect to these radios, there is still some work needed to tidy the coax's and label all the connectors.
Winlink for UHF/VHF/HF has been added along with a laptop to run these and also SARTrack which is used for LSAR and AEM/CD.

Papakura now has now obtained its own SARTrack ID which we can use for training in our area without affecting the other ID's used around Auckland. Attached to this is our own email address (arecpapakura@gmail.com) which we are trailing with SARTrack.

Richard Gamble
Group Leader Papakura ZK1ESA

DX Calendar November 2024



Click any link above for details on the expedition

Featured DX: C21MM Nauru

C21MM Team will be active from Nauru Island, IOTA OC - 031, 11 - 27 October 2024.
Team - DG2RON Ronny, DJ5IW Gerd, DJ7TO Olaf, DJ9KH Werner, DK3CG Rudolf, DK5WL Joe, DL1KWK Frank,DL2RNS Norbert, DL4SVA Georg, DL6KAC Christian, DL6KVA Axel, DL7JOM Olaf, DL7VEE Rolf, DL8LAS Andree.

They will operate on 160 - 6m, CW, SSB, Digital modes.

Planned operating freqs:

Band	CW	SSB	RTTY	FT8
160m	1.822,5	-	-	1.839
80m	3.533	3.805	-	3.570
60m	5.354	-	-	5.356
40m	7.002	7.092 / 7.192	7.047	7.056
30m	10.102	-	10.147	10.133
20m	14.033	14.210	14.095	14.095
17m	18.085	18.150	18.106	18.097
15m	21.033	21.275	21.095	21.095
12m	24.905	24.975	24.925	24.925
10m	28.033	28.465	28.110	28.095
6m	50.105	50.125	-	50.313

QSL via DL4SVA, LOTW, ClubLog OQRS.
Ads for direct QSL: Georg Tretow, DL4SVA, Rehnaer Str. 8, D-23936, Grevesmuehlen, GERMANY.

The Republic of Nauru is an island nation in the Pacific Ocean near the equator. It is one of the most isolated places in the world - the nearest population centre is Banaba Island, over 300km away. Nauru is currently considered the smallest republic in the world in terms of both size and population. It has an area of just 21.3 square kilometres and a population of around 9,400. Its closest neighbours are the Solomon Islands to the south, the Marshall Islands to the north, the Republic of Kiribati to the east and the Federated States of Micronesia to the west.

Tourism on the island is limited due to poor air and sea links and pollution from phosphate mining. Nauru has two hotels. Nauru Airlines is the national carrier and the only airline operating on the island. Its planes fly between Brisbane (a city in Australia), Honiari (the capital of the Solomon Islands), Nadi (a city in Fiji) and Tarawa (an atoll in the Republic of Kiribati).

The origin of the word ‘Nauru’ is not known. The natives called their island Naoero. The German Paul Hambruch, who lived here in May 1909 and from September to November 1910, thought the word Naoero was a combination of the words ‘a-nuau-aa-ororo’, which means ‘I go to the seashore’. After spending 30 years on Nauru and studying it thoroughly, German Alois Kaiser came to the conclusion that his countryman's explanation was wrong.

Throughout history, the island has had many names: until almost the end of the 19th century, the British colonisers called it Pleasant Island, meaning ‘Pleasant’ island, while the German colonial rulers stuck more to the name ‘Nawodo’ or ‘Onawero’.

The island is located in the western Pacific Ocean at 0°32‘ south latitude and 166°55’ east longitude. It has an exclusive economic zone of 308,480 km² (together with territorial waters of 570 km²), bordering the belt of the Republic of Kiribati to the east (290 km to Banaba Island) and the Marshall Islands to the north (600 km to Ebon Atoll). In relative neighbourhood are Micronesia (Kosra) to the northwest, the Solomon Islands to the southwest, Papua New Guinea (Bismarck Islands) to the west and Tuvalu to the southeast.

Nauru is a coral island (atoll) located on top of an extinct underwater volcano. The coral here reaches 2000 metres deep into the sea and is a maximum of 60 metres above sea level. The island's highest point, Aivu, is located on the eastern side of the island. Compared to other atolls, Nauru has a very small lagoon. Already one kilometre from the coast, the depth of the sea exceeds 1000 metres. Inside the island there are phosphates formed from the excrement of seabirds. About 2 kilometres of the island is covered with forests.

Nauru has no large animals; with the exception of insects, there is only one species of bird, Acrocephalus rehsei, which is endemic. Cats, dogs and pigs imported from abroad are often seen on the island.

The flora of the island consists of coconut palms, pandanus, figs, hibiscus, etc. However, due to environmental degradation caused by mining, many species of flora have virtually disappeared.

In terms of the marine environment (especially the coral belt surrounding the island), the area used to be rich in molluscs and large arthropods. Today, the island's aquatic life is in danger of extinction, greatly influenced by urbanisation and phosphate exploitation.

UPCOMING CONTESTS

November 2024

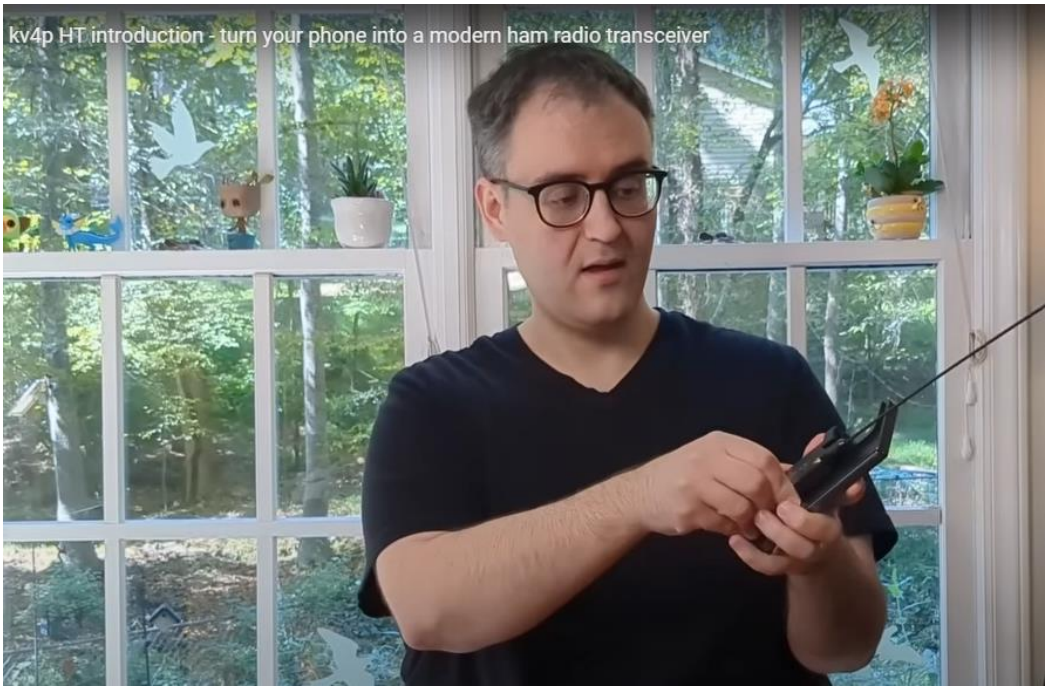
Refer to the contest websites for full rules, scoring information, operating periods or time limits, and log submission information.

Start - Finish Date-Time		Date-Time		Bands	Contest Name	Mode	Exchange	Sponsor's Website
1	0100	1	0130	See rules	NCCC FT4 Sprint	Dig	4-char grid square	**ncccsprint.com**
1	0145	1	0215	3.5-28	Weekly RTTY Test	Dig	Name, SPC	**radiosport.world/wrt.html**
1	0230	1	0300	See rules	NCCC Sprint	CW	Serial, name, QTH	**ncccsprint.com**
1	0600	1	0859	3.5,7	Silent Key Memorial Contest	CW	RST, SK call sign you wish to recognize	**www.skmc.hu/en/rules.html**
2	0600	2	1800	3.5-28	IPARC Contest, CW	CW	RST, serial, IPA, US state (if USA)	**www.iparc.de**
3	0600	3	1800	3.5-28	IPARC Contest, SSB	Ph	RST, serial, IPA, US state (if USA)	**www.iparc.de**
3	0800	3	1200	Any	EANET Sprint	CW Ph Dig	RS(T)	**fediea.org**
3	1400	3	1700	3.5-28	High Speed Club CW Contest	CW	RST, mbr or "NM"	**www.highspeedclub.org**
4	2000	4	2130	3.5	RSGB 80m Autumn Series, Data	Dig	RST, serial	**www.rsgbcc.org**
5	0100	5	0300	3.5-28	ARS Spartan Sprint	CW	RST, SPC, pwr	**ars-qrp.com**
6	2000	6	2100	3.5	UKEICC 80m Contest	Ph	6-char grid square	**www.ukeicc.com**
7	0000	8	0300	7	Walk for the Bacon QRP Contest	CW	13 WPM max; RST, SPC, name, mbr/pwr	**qrpcontest.com/pigwalk40**
7	1800	7	2200	28	NRAU 10m Activity Contest	CW Ph Dig	RS(T), 6-char grid square	**nrau.net**
7	2000	7	2200	1.8-28,50	SKCC Sprint Europe	CW	RST, SPC, name, mbr or "none"	**www.skccgroup.com**
9	0000	9	2359	3.5-28	FISTS Saturday Sprint	CW	RST, name, mbr or "0," SPC	**fistsna.org**
9	0000	10	2359	3.5-28	WAE DX Contest, RTTY	Dig	RST, serial	**www.darc.de**
9	0000	11	2359	1.8-7	PODXS 070 Club Triple Play Low Band Sprint	Dig	RST, SPC	**www.podxs070.com**
9	0001	10	2359	28	10-10 International Fall Contest, Digital	Dig	Name, mbr or "0," SPC	**www.ten-ten.org**
9	0700	10	1300	1.8-28	JIDX Phone Contest	Ph	RST, JA prefecture number or CQ zone	**www.jidx.org**
9	1200	10	1200	1.8-28	OK/OM DX Contest, CW	CW	RST, 3-letter OK/OM district code or serial	**okomdx.crk.cz**
9	1200	10	2359	1.8-28,50	SKCC Weekend Sprintathon	CW	RST, SPC, name, (SKCC no./"NONE")	**www.skccgroup.com**
9	1900	11	0500	1.8-28,50, 144,432	CQ-WE Contest	CW Ph Dg	Name, location code, years of service	**w8zpf.com/cqwe**
9	2300	18	0300	1.8-14	AWA Bruce Kelley 1929 QSO Party	CW	RST, name, QTH, equipment year/type/ pwr	**antiquewireless.org**
10	0000	10	0400	3.5-14	North American SSB Sprint Contest	Ph	Other's call, your call, serial, name, SPC	**ssbsprint.com**
10	0700	10	1700	3.5-28	FIRAC HF Contest	Ph	RS(T), serial	**www.firac.de**
11	0000	11	0200	1.8-28	4 States QRP Group Second Sunday Sprint	CW Ph	RS(T), SPC, mbr or pwr	**www.4sqrp.com**
12	1900	12	2000	3.5	DARC FT4 Contest	FT4	RST, 4-char grid square	**www.darc.de**
13	2000	13	2130	3.5	RSGB 80m Autumn Series, SSB	Ph	RS, serial	**www.rsgbcc.org**
15	0100	15	0130	See rules	NCCC FT4 Sprint	Dig	4-char grid square	**ncccsprint.com**
15	0145	15	0215	3.5-28	Weekly RTTY Test	Dig	Name, SPC	**radiosport.world/wrt.html**
15	0230	15	0300	See rules	NCCC Sprint	CW	Serial, name, QTH	**ncccsprint.com**
16	1200	17	1200	3.5-28	LZ DX Contest	CW Ph	RS(T), 2-letter LZ district or ITU zone	**lzdx.bfra.org**
16	1600	16	2359	1.8	All Austrian 160-Meter Contest	CW	RST, serial, OE district code (if OE)	**www.oevsv.at**
16	1700	16	2359	1.8	REF 160-Meter Contest	CW	RST, serial, department code	**concours.r-e-f.org**
16	1800	17	2100	3.5,7,21,28	South American Integration Contest CW	CW	See rules	**sacw.cwsp.com.br**
16	1900	16	2059	1.8-28,50	Feld Hell Sprint	Dig	RST, mbr, SPC, grid	**sites.google.com/site/ feldhellclub**
16	1900	16	2300	1.8	RSGB 1.8 MHz Contest	CW	RST, serial, UK district code (if UK)	**www.rsgbcc.org**
17	0000	17	2359	3.5-28	FISTS Sunday Sprint	CW	RST, SPC, name, mbr or "0"	**fistsna.org**
17	1300	17	1700	3.5,7	Homebrew and Oldtime Equipment Party	CW	RST, serial, class	**www.qrpcc.de**
17	2300	18	0100	1.8-28	Run for the Bacon QRP Contest	CW	RST, SPC, mbr or pwr	**qrpcontest.com/pigrun**
18	2000	18	2130	3.5-28	RSGB FT4 Contest	Dig	Signal report	**www.rsgbcc.org**
21	0000	22	0300	14	Walk for the Bacon QRP Contest	CW	13 WPM max; RST, SPC, name, mbr/pwr	**qrpcontest.com/pigwalk20**
21	0130	21	0330	3.5-14	NAQCC CW Sprint	CW	RST, SPC, mbr or pwr	**naqcc.info**
21	1900	21	2000	3.5-14	NTC QSO Party	CW	25 WPM max; RST, mbr or "NM"	**pi4ntc.nl**
23	0000	24	2359	1.8-28	CQ Worldwide DX Contest, CW	CW	RST, CQ zone	**www.cqww.com**
27	0000	27	0200	1.8-28,50	SKCC Sprint	CW	RST, SPC, name, mbr or "none"	**www.skccgroup.com**
27	2000	27	2100	3.5	UKEICC 80m Contest	CW	6-char grid square	**www.ukeicc.com**
28	2000	28	2130	3.5	RSGB 80m Autumn Series, CW	CW	RST, serial	**www.rsgbcc.org**
29	0100	29	0130	See rules	NCCC FT4 Sprint	Dig	4-char grid square	**ncccsprint.com**
29	0145	29	0215	3.5-28	Weekly RTTY Test	Dig	Name, SPC	**radiosport.world/wrt.html**
29	0230	29	0300	See rules	NCCC Sprint	CW	Serial, name, QTH	**ncccsprint.com**

Note: All dates and times are in UTC, Mbr = Membership number. Serial = Sequential number of the contact. SPC = State, Province, DXCC Entity. XE = Mexican state.

TURN YOUR ANDROID PHONE INTO A REAL RADIO.

There are a lot of apps for cellphones that allow you to use your phone to connect to internet based radio networks, like Echolink, IRLP, DMR, or D-Star, but a US based Ham, Vance Vagell, KV4P, has released an open source project, Based on the ESP-32 development board and a DRA818V (or SA818S-V) VHF HAM Radio Module Amateur Radio to make the phone into an actual radio.



According to the project lead, The kv4p HT is a homebrew VHF radio that makes your phone capable of voice and text communication completely off-grid if you hold an amateur radio license.

The radio simply plugs into the USB C port on your Android smartphone and transforms it into a fully-fledged handheld radio transceiver. It's completely open source (GPL3): the Android app, ESP32 firmware, PCB designs, and 3D printer files.

It's small enough to fit in your pocket and take anywhere, and since it has no internal battery it's the perfect radio to put in a go-bag or your car's glove compartment.

Features

- Only $35 to build, with 3 components to solder *(This is $US, so Milage will vary)*
- 100% ham radio, always completely off-grid
- Crystal-clear 44kHz 8-bit ADC/DAC audio, with filters and squelch
- Texting with notifications just like SMS — radio-based APRS messaging (not just location) with built-in 1200 baud modem *(text like messaging without a network)*
- Scan through unlimited memories and groups *(the app controls the Radio)*
- No battery means nothing to charge except your phone
- 1 watt transmitter can go miles yet sips your phone's battery
- Antenna can be changed to suit the application.
- Accessibility options: live closed captions (on supported phones), turn-off animations, sticky PTT with haptic feedback

ANOTHER KITSET, BUT THIS TIME

One of the questions I often face is why I use, and often supply, commercial radios. After all, wouldn't a ham be better off with a real ham radio?

Believe it or not commercial radios, often outperform Ham radios, They have better selectivity, and can withstand some serious issues without failing, The one drawback is that they need to be programmed in advance, and once set, they are hard to change, without programming software.

But what if you could modify them to make them work in a VFO mode?

INTRODUCING THE TAIT TM8000 SERIES VFO KIT...

Designed by Papakura Radio Club member, Keith Dix, ZL1BQE... this is a VFO unit that has been designed for Ham use and incorporates most of those functions that we would experience with a commercially built radio from Icom, Yaesu, Kenwood etc...

Just connect the new head unit via a ribbon cable to the Rear connector, and … Voila, It's a "real" ham radio.

99 user programmable Memories... most Ham needs is in the software

- This VFO unit will work with either VHF or UHF radios... you tell it which one you are using... the repeater shift is stored during this initial setup function… 600kHz for VHF and 5MHz for UHF.

- The are 99 memories... stored in the VFO unit... not in the radio's software, which may only have provision for 10 memories.

- You can scan... the memory channel list...

- You can adjust the time the scan function pauses on a signal and temporarily remove a noisy channel from the scan list.

- You can adjust the power output... 1 Watt... 5 Watts... 10 Watts... 25 Watts.

- The display will also remember the last settings if power is disconnected and reinstate those settings on restart...

- There is a headphone connection from the front RJ45 connection.

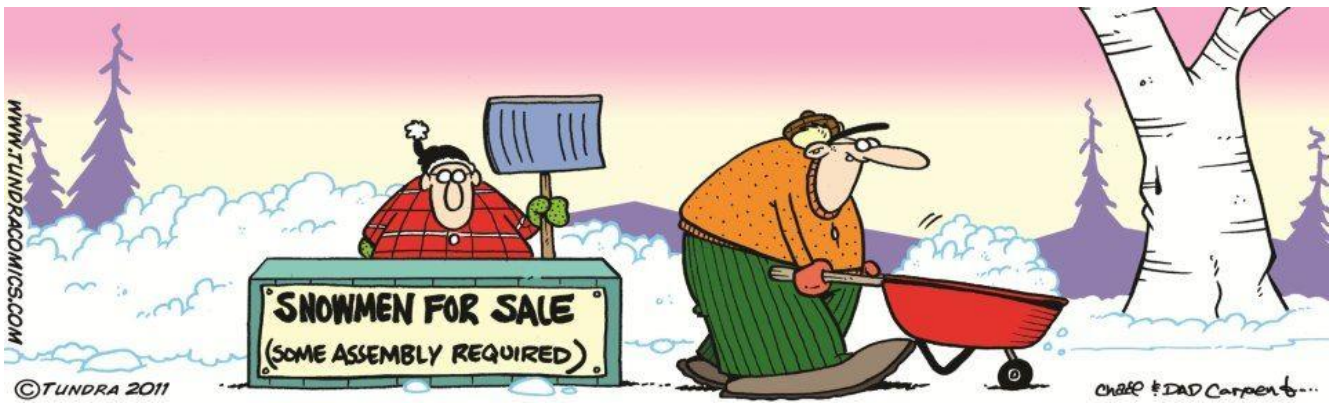
  Plus... Plus... Plus...

Note, as this is a Tait 8000 series radio, an external speaker is required.

There is also an escutcheon that Robert Patterson, ZL4ROB has made and can be 3D printed to finish off the project… John Gilmour, ZL1OJ also has the file to print these… contact them by email at… jgil50@slingshot.co.nz or robertpatterson@xtra.co.nz

This VFO Kit will only be sold to Amateur Radio Operators… I will be checking the RSM Amateur Radio Operators Data Base… DO NOT PURCHASE if you are not listed here… contact me if you have any concerns.

Order your kit today from David, zl1dk… for a total of just $125.00



ARE YOU SECURITY AWARE?

If you've ever cared about your privacy, now might be the time to grab the tin foil hat.

It seems like everything you do now requires you to provide information on all aspects of your life, In fact I often ask where is the “what did you have for breakfast this morning” question. But this month 3 major news stories have made the warnings of men like Edward Snowden worthy of revisiting.

And no I’m not talking about the issue of the arrest of the founder of Telegram, for not sharing private information of users, even though they have been providing tis information to governments for it for years. (Just not enough of it in the eyes of the French, who feel that asking for a court order is a crime)

The first is the investigation by US lawmakers, who have sought an FBI briefing over whether Temu is a risk to national security and Americans' personal data.

The US House of Representatives' move is the latest in a years-long series of alarms being raised, and trade constraints or bans imposed on China-owned technology companies, on the grounds of a possible national security threat. In a letter, they say Temu is linked to the Chinese Communist Party, citing US media reports.

In a report last year, a federal commission said Temu's parent company Pinduoduo - a popular shopping site inside China - could spy on users.

It could "bypass user security permissions and access private messages, change settings, view data from other apps, and prevent uninstallation".

Google suspended the Pinduoduo app in March last year over security concerns.

"Due to the above cited incidents and many others, we are concerned about the protection of Americans' data," said the letter from the US permanent select committee on intelligence in late September.

"We have concerns that the CCP [Chinese Communist Party] has undertaken yet another attempt to exploit the democracy, free market principles, and the personal and economic data of the United States."

Offshore online retailers Temu and AliExpress appear to have be popular in New Zealand despite volatile consumer spending.

Radio New Zealand then contacted New Zealand Officials but The country's cyber watchdog refused to engage on the question of whether popular Chinese online shopping site Temu might be a threat to New Zealanders.

It stuck instead to general comments such as that with foreign apps, foreign laws on data-gathering might apply, though if companies operated here they had to meet local legal and privacy requirements.

New Zealanders should "be cautious about the privacy and security implications when installing any application", it said,

So before buying the cheap offer on Temu, remember you may be exposing the country to a national security threat! (or not)

But more worrying is what might be described as a real-life Black Mirror episode. A Harvard student uses facial recognition with $379 Meta Ray-Ban 2 smart sunglasses - to dig up personal data on every face he sees in real time.

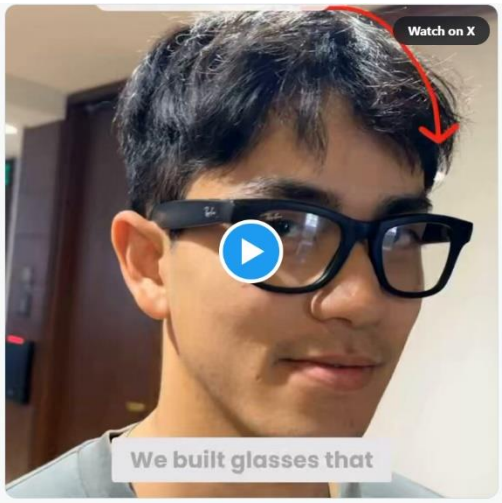
AnhPhu Nguyen, a junior at Harvard University, uses the livestreaming feature of his Meta Ray-Ban 2 smart glasses while a connected computer monitors the feed in real-time. He employs publicly available AI-powered facial recognition software to detect faces and scour the internet for more images of those individuals.

He then uses databases like voter registration and online articles to gather names, addresses, phone numbers, next of kin, and even social security numbers.

All of this data is scraped together using an LLM (Large Language Model) similar to ChatGPT which aggregates the data into a searchable profile that's fed straight back to his phone.

This entire process takes only seconds from being captured discreetly via the glasses to being displayed on his phone, giving off real life Cyberpunk 2077 vibes.

His X (twitter) post is linked to the image below, or click here to read more:



Nguyen says he's not done any of this for nefarious or malicious purposes. He's even published a small "how to" remove your information from some of the databases he uses to scrape your personal data. He wants to raise awareness of the implications this type of technology presents.

While he offers a "solution" to help protect yourself, it's really a small drop in a very large bucket that very well may never have a solution. Or maybe the solution will be wearing smart glasses of your own with infrared lights constantly blinding other facial recognition cameras?

Unfortunately, bad actors (hackers that act maliciously) have already broken into many websites and databases, including in April of this year, when information on 3 billion people, including every single social security number in existence was stolen from the background check company National Public Data and posted it on the Dark Web.

This kind of thing will become quicker and easier to execute as advanced AI systems become more capable with coding – and Nguyen shows in the video just how quickly he can gain people's trust by knowing a couple of small details about them and approaching them in person.

For now, Nguyen says he's not releasing this software, which he's dubbed I-Xray.

But if a smart college kid has already "cracked the code", imagine what's already happening behind the curtains. At least I think that was the lesson Edward Snowden was trying to tell us.

And as if this wasn’t creepy enough.

ABC news revealed The personal data of Australia's national security officials is at risk of being on-sold to foreign actors, according to a new report, and the federal opposition is demanding urgent action.

An investigation by the Irish Council For Civil Liberties (ICCL) reveals how the online ad industry is exposing sensitive personal information about Australian politicians and intelligence staff, leaving them susceptible to blackmail and hacking.

It outlines how the Real Time Bidding (RTB) system sells detailed and sometimes compromising data to thousands of businesses around the world, including those with links to foreign states and non-state actors.

This might include whether a person has gambled in the past week, if they're bankrupt, their sexual proclivities, whether they have depression, their health issues, their location data and the path they travel to work each day, just to name a few examples.

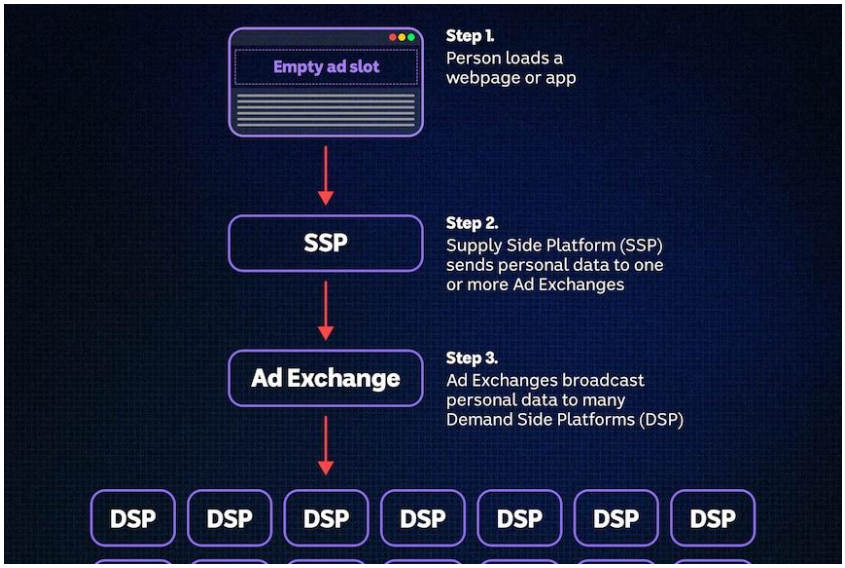
The ICCL research was led by Dr Johnny Ryan and points out that both Google and Microsoft send Australian RTB data to many companies in China, which are bound by law to share it with their government if asked.

"Google has a public list of over 2,000 companies that it can send RTB data about Australians to, and on that list are 12 companies with the word 'Beijing' in their name," Dr Ryan said.

"Now there are many other companies on that list that are Chinese, but it's a sign of how overt this is."

Google told the ABC it did not sell RTB data directly to thousands of companies, but a list of "authorised buyers" it provided to the ABC did contain a number of Chinese companies.

The RTB system is responsible for determining which personalised ads you see whenever you go online.



Every time a person opens a webpage or app, it immediately triggers an automated auction for each advertising slot on their screen.

In order to personalise those ads, an intricate network of ad companies collects user details such as browsing history and precise location to create and sell a "Cambridge Analytica"-style psychographic profile of their preferences and personal circumstances.

"[The RTB system] is operating 24/7, and it will send information about what an Australian is reading or watching and where they are about 449 times a day, the true figure is likely much higher because researchers weren't able to analyse data from Meta and Amazon.

It classifies users into hundreds of thousands of "segments", indicating everything from their political views, mental health, if they are survivors of sexual abuse, through to whether they prefer Fanta or Sprite.

RTB data doesn't include a person's name or contact details, but researchers say that the existing data is so detailed that it's easy for a skilled operator to identify someone.

"What makes it so acutely dangerous is that … [there's] an ID code, a very long string of numbers and letters, and it's totally unique to you as an individual," Dr Ryan said.

The unique ID code allows RTB clients to conduct "long-term monitoring and dossier building" on anyone captured in the dataset.

"Bear in mind that if you are disclosing your location several times a minute throughout almost your entire day, it is very clear where you go to sleep at night, where you work, which medical clinic you go to, which religious buildings, for instance."

A declassified report from the US Director of National Intelligence also outlines how US agencies utilise RTB data.

Another example cited in the report is the commercial surveillance tool "Patternz", which claims to have profiled 5 billion people.

The company "helps national security agencies detect audience patterns and user behaviour using digital advertising, data mining, and analytics", according to its marketing materials.

"It's a surveillance system that promises to show you your target individual, their most frequent driving routes, and who their children are and who their colleagues are," Dr Ryan said.

The report's authors are calling for an urgent review of the extent of the intelligence exposure in Australia.

New Zealand’s Privacy Act requires New Zealand Companies to only collect and hold data needed to provide services and inform affected parties if a breach occurs. However, overseas companies can, and clearly do, ignore these requirements.

Maybe the tin foil hat idea is not quite as crazy as it once was, and thinking about how you secure your data, and your identity is not limited to conspiracy theories in the internet age, where information is power.

Or maybe we all just have to accept that everything we think, do and say is available to anyone, anywhere and at anytime

But I’m not sure how I feel about that.

RAMBLINGS FROM THE EDITOR'S DESK

This is an unusual newsletter in that it covers two months due, in part, to it's being so late, and in part due to the busy few weeks that lie before me. It also facilitates the various reports for the AGM. In short, this is not a newsletter to try and read in a single sitting. So, take time with it and just enjoy an article here and there.

The 6 weeks since the last newsletter have been incredibly busy, and have also been a tough time of reflection. October 7 marked one year since the horrors of the attack on homes and music festivals, the 1200 killed by the terrorists, the hostage-taking with hundreds still held captive, and the devastating war that is escalating in the Middle East all began back then. It all seems so recent. Yet in that time, I've watched 5 SpaceX Starship Flights, and all the FAA politics over SpaceX flights. Finally caving to pressure and giving us less than 24 hours notice to prepare for the 5th flight.

And what a flight it was. Not only did they meet every target, but to see the Super Heavy booster fly itself back to the pad, and then be captured by the two "chopsticks" or mechazilla arms has to be one of those moments of history. I'm old enough to remember when Apollo 11 pictures beamed around the world as Armstrong took that famous step, I saw the first space shuttle take off and land, And I watched SpaceX land its first Falcon 9. This is another of those moments, and it's a testament to the visionaries behind it that the only 2 vehicles that can fly back to a launching site are both SpaceX vehicles.

Boeings Starliner also travelled to space, stranding its crew on the ISS, and requiring a rescue mission to bring them home, The tensions in the South China sea have also escalated, and of course the war in Ukraine drags on after 14 years despite all the assurances that the Russian military is ill equipped poorly trained, out of ammunition and rely on baofeng radios and GPS units taped to their mirrors. yet they keep gaining ground, despite state of the art US equipment.

Apparently America is having an election – and apparently we're supposed to care.

A study has shown that most New Zealanders do not trust the news media, and 60% of us avoid news on TV or in Print. Just as TVNZ is looking at dropping it's news, like TV3 did and it seems that only the journalists think they are important.

And some wonder why I do not pay much attention to the opinion pieces disguised as news that try to get me to pay for their "Informative Journalism".

However we also had real news: Dunedin has experienced quite severe flooding, Seddon and Wellington, have both experienced earthquakes, and the NZ Navy managed to run one of its ships aground on a reef they were surveying, and then when they tried to get it free it caught fire and sunk.

And the Florida coast (the same one that houses the very launches above) had two hurricanes sweep through the same place in short succession. And the same YouTube channels that stream launches live, were showing the weather in real time, using traffic cameras to show the effects over the entire state. Live, Unfiltered Unedited, and we're told, Unreliable. Yet, They were 100% accurate in showing us what was happening, just from their viewpoint.

So quite a month.

But its also Spring which means the grass grows faster and my grapevine has started sprouting new vines showing signs of new life, and the promise of new fruit. The solar system is generating more power daily as each day gets a bit longer, and the weather co-operates, something it's been doing a bit less of with the spring rains.

Its also time to repair the damage of the winter weather. My antenna farm did not escape this season unscathed, The HF did well this winter, But the VHF and UHF antennas took damage. Some will be repaired, some will need to be replaced, but all will need some attention.

But isn't this the nature of time itself?

In scientific terms, we call this the arrow of time, a concept that it keeps moving, and in one direction, It marches on, and before you know it, it's gone, but we add another concept called entropy. As time passes entropy increases, that is things become more random, less organised. Or as we common folks call it, things wear out, rust or break down.

So why does a grapevine grow, while an antenna breaks? After all both received the same energy. The difference is information. The secret to life itself. The more correct term of entropy is that a system moves from order to chaos, unless information and energy is applied to the system. In the grapevine the information is in the cells, in the RNA and DNA that sits waiting over winter, and then when spring arrives, water, nutrients and sunlight trigger energy and growth. But this growth happens to a plan. The information directs its growth and so instead of chaos, order is created.

The same is true of all invention and innovation.

It doesn't matter if you like Elon Musk or not, You have to admire his vision. Following the success of starship Flight Test 5, there were many who felt that the real heroes were the engineers and teams of people who made the rockets and the tower, not the leadership, but I ask if they would have tried it unless someone thought that catching a rocket, the same way we saw chopsticks catch a fly in "The Karate Kid" movie was worth trying.

It is said, that when Henry Ford wanted a solid block V8, he hired the best engineers to build it. They told him it couldn't be done, so he fired them and hired some more, They too said it was impossible, finally after multiple teams had come and gone, one group made it happen, and now the method of boring and machining metal to make engines is used worldwide, and every engineer knows how to do it. Before there can be invention, there must be a vision.

That also means that you wont succeed at everything. One of the motivational statements that you will see everywhere at Starbase in Texas is: Failure is an option here. And I like that

Many people see failure as the end, but failure is part of the journey. Thomas Edison spent years trying different filaments for his electric lamp, when a reporter asked him about it, he stated that he must have tried 6,000 times at a cost of $40,000 before succeeding. The reporter then stated “So you failed 6,000 times” to which Edison reportedly replied, “No, I simply discovered 6,000 things that didn’t work”

Musk hasn’t always had the Golden touch. While Tesla and SpaceX are successes, does anyone remember the Hyperloop? This idea of travelling at high speed inside a vacuum sealed metal tube created a lot of interest, and many engineering students and companies saw it as a future travel system. But there is no hyperloop, even Musk’s test track is now gone, a forgotten idea, that failed to live up to its hype.

And he’s not alone. The Segway was supposed to revolutionise travel, Some journalists went so far as to say cities would be designed around it. But where are they all now?

Well they exist but as Scooters or e-Bikes. The concept was there, but the design was wrong, and segways are another idea that was innovative, but just not what people really wanted

So yes, Failure is an option and a step to innovation. So when you see that Flight Test 5 had issues with the engines warping due to atmospheric pressure, or flames in the wrong places, Remember these are steps on the journey to knowledge. Boeing’s traditional don’t take risks approach, left two astronauts stranded, SpaceX took a higher risk approach, and blew up several ships, learning from each one, and that is still going on, but look at what they have achieved.

So what does this have to do with Radio? Well First and Foremost, Failure is definitely an option. No matter what we do, we shouldn’t expect to get everything right first time.

Second, learning new things, figuring out how things work, takes time. Any new skill will only come with practice, we should not expect to become experts overnight.

Third, No matter how good our preparation, we will find things don't go as planned, so its likely changes will need to be made. In fact we may never stop making improvements.

And Finally, Unless someone has an idea, good or bad, nothing will ever change, it will never get better. So when you hear about another crazy ham idea, don't throw it out without considering, it may suit someone. Just maybe not you.

As we go into another AGM, its easy to look back and say what went well, or what didn't, and it's important to do that, but we need to temper our expectations, and realise that not everything will work first time, We will make mistakes, but at least we made something.

Without energy, things deteriorate, we must invest energy to keep our buildings maintained and our club running, but we also need visionaries, their ideas may not always work, and they can go off track at times, but without vision, we will watch as the club, and the hobby stagnates. Visionaries can be controversial, they can make enemies, and they can be hard to work with, but if they motivate the right people, and surround themselves with practical people, who can make the ideas real, and focus their energy to make a thing happen, they can be the guide to a better future.

And so we need to look once again to our members. What will you be bringing to the AGM? A vision?, Some skills to make things happen, An eye to try to keep us to a budget, or something we haven't thought of yet?

Because we need you. We need your fresh ideas. We need you to focus us. We need you to tell us what you as a club member expect from your club. So as we look to another year, we need to learn from you what is needed to make our club successful in a world that doesn't see the benefits that Amateur Radio brings to communities and to individuals.

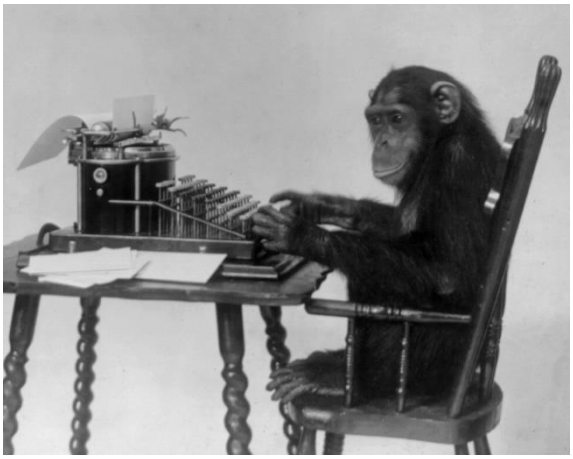
So this AGM, don't sit on the sidelines and hope that things will get better with time, get involved, make suggestions, join the committee, take on a role, be active on club nets. Just pick any one that works for you. But most importantly get on the air, and promote the value of radio when you talk to others.

The best advertisement for ham radio is you, and the club is here to support you. So fill out your survey, and lets make 2025 a great year for Amateur Radio, because we all got involved and had a good time.

It is food for thought

73 for now de ZL1NUX

A DISTINCT LACK OF MONKEYS



It's a famous image, if an infinite number of monkeys randomly typed on an infinite number of keyboards, the eventually they would produce the complete works of Shakespeare.

Or more importantly, Given enough time, even the most improbable event would occur.

However Two Australian Mathematicians have pointed out that while the statement is mathematically true, the theorem is a best very misleading.

The new peer-reviewed study led by Sydney-based researchers Stephen Woodcock and Jay Falletta has found that the time it would take for a typing monkey to replicate Shakespeare's plays, sonnets and poems would be longer than the lifespan of our universe.

The study looked at how well a single monkey could type and also did some calculations based on the current number of chimpanzees in the world, which is about 200,000. The results showed that even if every chimpanzee in the world typed one key per second until the end of the universe, they wouldn't be able to type out Shakespeare's works.

There is only a 5% chance that one chimp could type the word "bananas" in its lifetime. The chance of a chimp typing a random sentence like "I chimp, therefore I am" is one in 10 million billion billion.

The study says it's not realistic to think that monkeys could ever type out meaningful works, even if they typed faster or there were more of them.

In a 2014 clip that's now being widely shared online, comedian Ricky Gervais said to Karl Pilkington: "They say an infinite amount of chimps with an infinite amount of typewriters will type the complete works of Shakespeare, and you couldn't grasp that."

Pilkington, keeping a straight face, replied: "It wouldn't happen. It wouldn't happen – and I think you know it wouldn't happen but you say it would, to annoy me." Gervais, Interjected to state, No it works by definition of infinity, to which the unimpressed Pilkinton replies, It doesn't matter – So It seem Gervais Loses, and Pilkington Wins.

Associate Professor Woodcock said this finding shows that using the idea of infinite resources gives results that don't match up with the real constraints of our universe.

Following the same logic, we could conclude there is no life in the universe as..

1. The universe in infinite,
2. There are a finite number of inhabited worlds,
3. Any finite number divided by infinity is zero.
4. So the population of the universe is Zero

Therefore anyone you meet is only a figment of a deranged imagination. **But that would explain an awful lot.**

T CORONAE BOREALIS: THE BLAZE STAR'S SPECTACULAR NOVA

T Coronae Borealis, often referred to as the Blaze Star, is a fascinating celestial object located approximately 3,000 light-years away in the constellation Corona Borealis. This binary star system consists of a white dwarf and a red giant, and it is renowned for its recurrent nova events. These dramatic outbursts occur roughly every 80 years, making each one a rare and eagerly anticipated event for astronomers and stargazers alike.

The Mechanism Behind the Nova

The recurrent nova phenomenon in T Coronae Borealis is driven by the interaction between its two stellar components. The white dwarf, a dense remnant of a star, accretes material from its companion, the red giant. Over time, this material builds up on the surface of the white dwarf, increasing in pressure and temperature until it ignites in a thermonuclear explosion. This explosion causes the system to brighten dramatically, sometimes becoming visible to the naked eye from Earth.

The last recorded nova of T Coronae Borealis occurred in 1946, and the star is currently poised for another outburst. Astronomers have been closely monitoring the system, noting fluctuations in brightness that suggest an imminent explosion. When the nova occurs, it is expected to reach a magnitude of around +2, making it one of the brightest objects in the night sky for a brief period.

Viewing the Nova in the Southern Hemisphere

For observers in the Southern Hemisphere, viewing T Coronae Borealis can be a bit challenging due to its position in the sky. The constellation Corona Borealis, also known as the Northern Crown, is located in the northern celestial hemisphere. This means that it is best viewed from locations in the Northern Hemisphere. However, it is still possible to catch a glimpse of the nova from southern latitudes, particularly in regions closer to the equator.

To locate T Coronae Borealis, stargazers should look for the constellation Corona Borealis, Using a star chart or a stargazing app can help pinpoint the exact location of the constellation and the expected position of the nova.

The upcoming nova of T Coronae Borealis is not just a visual spectacle; it also holds significant scientific value. Studying these outbursts provides astronomers with crucial insights into the behaviour of binary star systems and the processes that lead to nova explosions. Observations from ground-based telescopes and space observatories will help scientists understand the dynamics of mass transfer between the stars and the conditions that trigger these explosive events.

The anticipated nova of T Coronae Borealis is a once-in-a-lifetime event that promises to captivate both amateur stargazers and professional astronomers. While viewing conditions may be more favourable in the Northern Hemisphere, those in the Southern Hemisphere can still witness this extraordinary celestial event with some careful planning and the right tools. And of course we will be able to watch some northern hemisphere events on YouTube, or via on-line telescopes. As we await the Blaze Star's spectacular outburst, the excitement and anticipation continue to build, reminding us of the dynamic and ever-changing nature of our universe.

Are you excited to try and spot this nova? Let me know if you get any good photographs

NASA JUST RECEIVED A MESSAGE FROM 140 MILLION MILES AWAY, AND ITS SENDING A CLEAR MESSAGE

NASA has made an extraordinary announcement. Earth received a laser-encoded message from a spacecraft located 140 million miles away, potentially impacting future space travel. This breakthrough marks a milestone in interstellar communication and space technology.

The sender of this message was not extraterrestrial. NASA's Psyche mission, positioned 1.5 times the distance between Earth and the Sun, transmitted the laser signal, representing a significant advancement in the speed and clarity of space agency communications across great distances. This achievement was made possible using a Psyche feature called Deep Space Optical Communications.

Laser communication in space is not a new concept. Compared to radio waves, lasers are more efficient in transmitting large quantities of information at high speeds. The Starlink network is interconnected using lasers. What made this unique was that the receiving station was located on Earth, beneath the atmosphere that diffuses light.

NASA's achievement was particularly significant because, in addition to the laser message reaching a record-breaking distance, NASA was able to relay actual data from the spacecraft. In November 2023, Psyche sent data back to Earth from a distance of 10 million miles, but instead of returning "real" information, it delivered pre-loaded test data.

According to NASA this connection is up to a hundred times faster than what is currently achievable. Additionally, it opens the door to communications for deep space exploration. Worldwide space agencies have a goal to know more about the solar system, therefore, there is an increasing need for more effective communication systems.

Receiving a message from 140 million miles away is not an easy task, however NASA was able to retrieve the message successfully. This test revealed that laser communications can transfer large amounts of information compared to traditional transmission.

This new development is significant for the future especially when it comes to retrieving or sending a lot of information including high-definition pictures and even the potential for live video broadcasts from space. The successful transmission of the message marks the beginning of a new era in space exploration. Faster transmission and reception might be advantageous for missions to Mars. NASA's success with this laser-based communication system has built a strong foundation for more innovative ways to enhance space communications in the future of science and technology.

This most recent DSOC transmission, in comparison, only had 25 megabits. This resulted from Psyche's seven-fold greater distance from Earth, which slowed down its message-sending and receiving speed. This exceeded the project's objective of "proving at least 1 Mbps was possible at that distance," according to the statement, even though the speed was very slow.

This technology may someday become the norm for space missions as NASA develops and improves it, revolutionising how we interact with the cosmos and communicate. And of course we hams can also use light to communicate … Maybe a fun project for another time.

IS IT TIME TO AGAIN CONSIDER HF FOR LOCAL COMMS?

When considering emergency comms, providing support to community events or AREC exercises, we often rely on VHF comms.

There are many good reasons for this, including the low cost of VHF radios, and the simplicity of the setup. VHF has better coverage than UHF in hilly terrain and there are many suitable channels in the band plan for simplex communications.

But what about HF? After all HF does an even better job of covering terrain

Typically HF radio, if it is used at all, is performed by throwing a wire up into a tree, or up a pole. These are great antennas for long range communications, due to their low take off angles, but in an emergency, the need will be for local communications. Most of the ways we use HF is for long range, so how would we use it for Short range comms?

A dipole, or inverted V, will do a better job, but it requires more time to erect, and it requires a clear area to erect it.

But do we need to be using the Sky wave? Maybe a better antenna is easier than we think.

Back in June 2023 Raisa R1BIG posted a video showing contacts on a dipole antenna, buried in the sand on a beach. The antenna was shortened to almost half its normal length to make it resonant. That is a 20 Metre antenna was only 5 metres long end-to-end. She then went on to make multiple contacts, with strong signal reports. How?

There were two possible propagation methods, that would have worked (in addition to the Skywave, with a low take off angle.)

Ground Wave, and NVIS Sky Wave

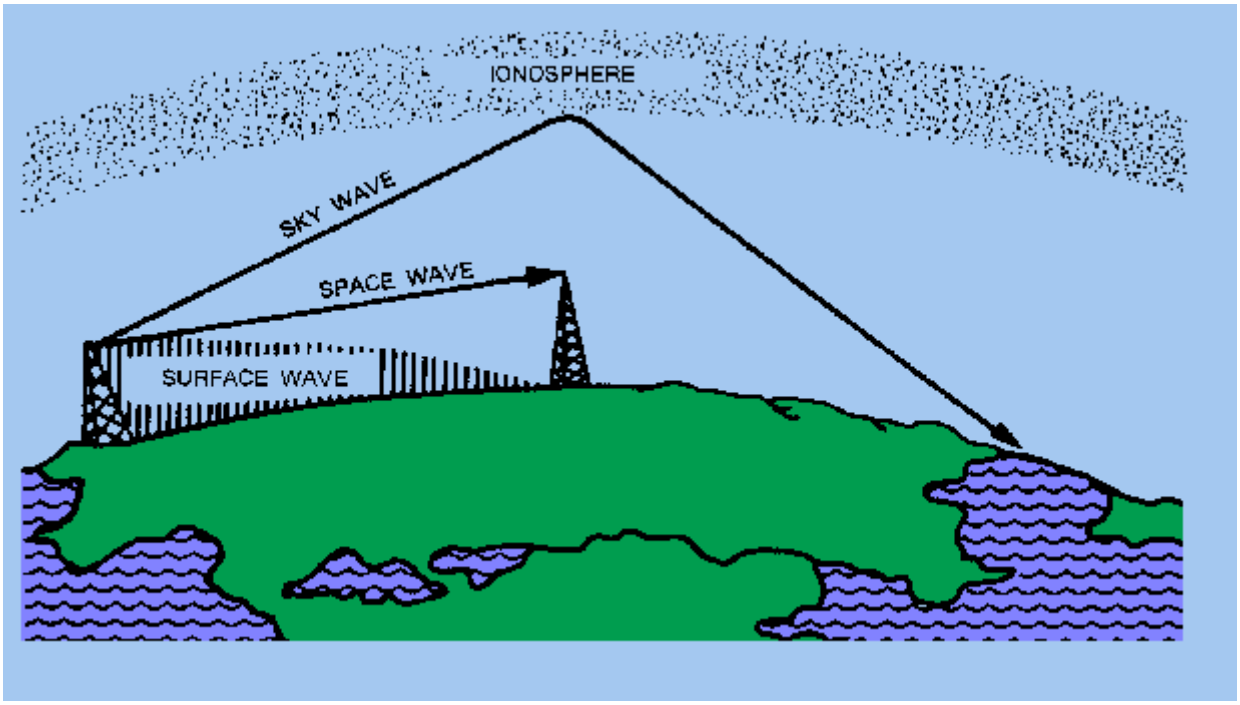
What is Ground Wave Propagation?
Ground wave propagation refers to the method by which radio waves travel along the surface of the Earth. This type of propagation is most effective at lower frequencies, particularly in the MF (300 kHz – 3 MHz) or low end of the HF band (3-30 MHz). Unlike sky waves, which bounce off the ionosphere to cover long distances, ground waves follow the Earth's curvature, making them ideal for short to medium range communication.

Ground wave propagation relies on the interaction between radio waves and the Earth's surface. The waves travel along the ground, hugging the terrain and bending around obstacles. This allows them to maintain a relatively stable signal over distances typically up to a few hundred kilometres. But as the distance increases, the ground absorbs the RF energy reducing the power of the signal.

The effectiveness of ground wave propagation depends on several factors, including frequency, terrain, and ground conductivity. Lower frequencies tend to propagate better as ground waves, and areas with

high ground conductivity (e.g., seawater) enhance signal strength. Probably why it worked so well from a beach. Being in non-conductive sand just above the water ground plane.
Ground wave propagation is ideal for short to medium-range communication, typically up to 500 kilometers. This range is sufficient for coordinating emergency response efforts within a region, ensuring that first responders and emergency services can stay connected.

Ground waves provide a stable and consistent signal, less affected by atmospheric conditions compared to sky waves. This reliability is crucial during emergencies when clear and uninterrupted communication is necessary.



HF radio equipment for ground wave propagation is relatively simple to set up and operate. It does not require high antennas or complex infrastructure, making it a practical choice for emergency situations where quick deployment is essential.

Ground wave propagation can be used with standard HF radio equipment, which is widely available among amateur radio operators and emergency services. This versatility ensures that existing resources can be utilized effectively during emergencies.

To effectively use ground wave propagation, several factors need to be considered:

Frequency Selection: Higher MF or low HF frequencies (1-10 MHz) are more effective for ground wave propagation. These frequencies are less attenuated by the ground and can travel longer distances.

Antenna Configuration: The choice of antenna and its placement are crucial. Vertical antennas are often preferred for ground wave propagation, as they provide better ground coupling. The antenna should be placed in an open area, away from obstructions. But alternatively, a wire deployed close to, or even laying on the ground will induce a ground wave, and because of the mutual induction between the antenna and the ground, the antenna length will be shorter than normal.

The conductivity of the ground significantly affects signal strength. Areas with high conductivity, such as coastal regions, enhance ground wave propagation. In contrast, dry, rocky, or sandy soils may

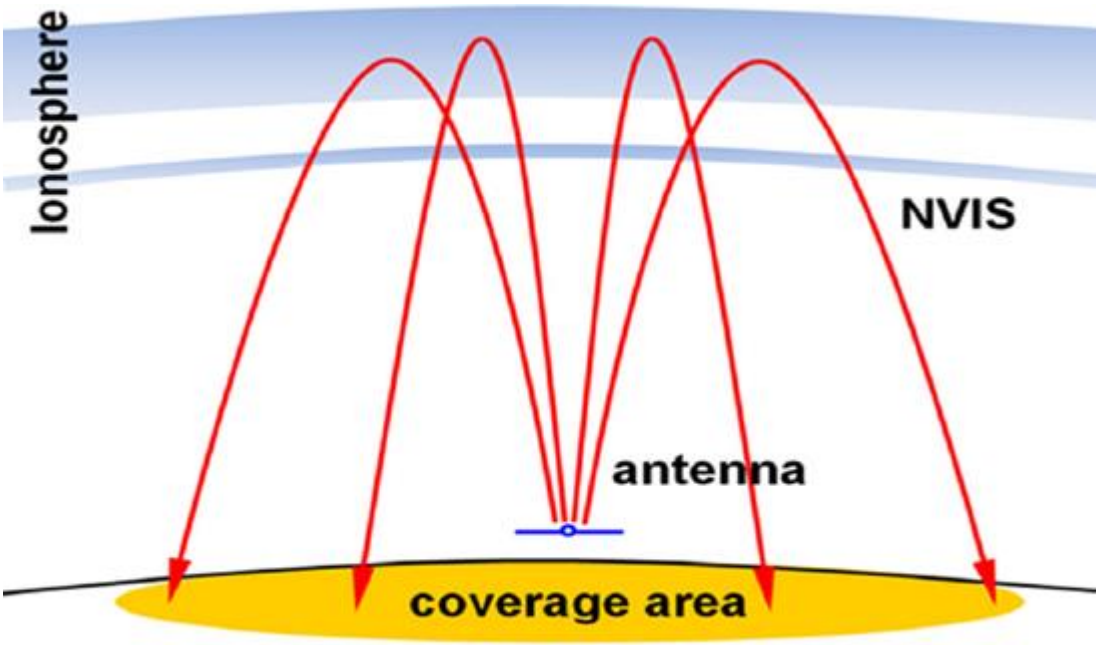
attenuate the signal. While ground wave propagation can be effective with relatively low power, higher power levels can help ensure a stronger and more reliable signal, especially in challenging terrain. Ground wave propagation has been successfully used in various emergency scenarios: During events like earthquakes, hurricanes, or floods, traditional communication infrastructure can be damaged or destroyed. Ground wave propagation provides a reliable alternative for coordinating rescue and relief efforts over short to medium distances. Normally vertical antennas are used for disaster ground wave operations, and these can include using AM broadcast radio to give updates to affected persons in disaster areas.

Ground wave propagation is also used in military and tactical operations where reliable communication is needed over challenging terrain. The military use both vertical and horizontal antennas for ground wave comms, but horizontal use, also allows for NVIS operation.

NVIS HF radio is a communication technique that uses high-frequency radio waves to establish reliable communication over short to medium distances, typically ranging from 50 to 800 kilometers. Unlike traditional HF communication, which relies on low-angle signals that travel long distances by bouncing off the ionosphere, NVIS uses high-angle signals that are directed almost vertically. These signals are then refracted back to Earth by the ionosphere, covering a more localized area.

The principle behind NVIS is relatively simple. When a radio signal is transmitted at a steep angle, it travels upwards and hits the ionosphere almost directly overhead. The ionosphere, a layer of the Earth's atmosphere filled with charged particles, bends the signal back towards the ground. This creates a "skip zone" where the signal can be received over a wide area without the need for line-of-sight communication.

To visualize this, imagine throwing a ball straight up into the air. Instead of traveling a long distance horizontally, the ball comes back down near the point where it was thrown. Similarly, NVIS signals travel upwards and then return to Earth, covering a circular area around the transmitter.



One of the primary advantages of NVIS is its ability to overcome terrain obstacles. In mountainous or heavily forested areas, VHF and UHF signals can be blocked by physical obstructions. NVIS signals,

however, are not affected by these obstacles as they travel upwards and then back down, ensuring reliable communication regardless of the terrain.

NVIS provides a larger coverage area compared to VHF and UHF. While VHF and UHF are limited to line-of-sight communication, typically up to 50 kilometres, NVIS can cover distances up to 800 kilometres. This makes it ideal for regional communication during emergencies, where coordination across a wider area is necessary.

NVIS communication is less susceptible to interference from distant signals. Since the signals are directed upwards and then refracted back down, they are less likely to be affected by other transmissions. This results in clearer and more reliable communication, which is essential during emergencies.

Setting up an NVIS station is relatively straightforward. It does not require high antennas or complex equipment. A simple dipole antenna placed a few meters above the ground is sufficient to achieve effective NVIS communication. This ease of setup is particularly beneficial in emergency situations where time and resources may be limited.

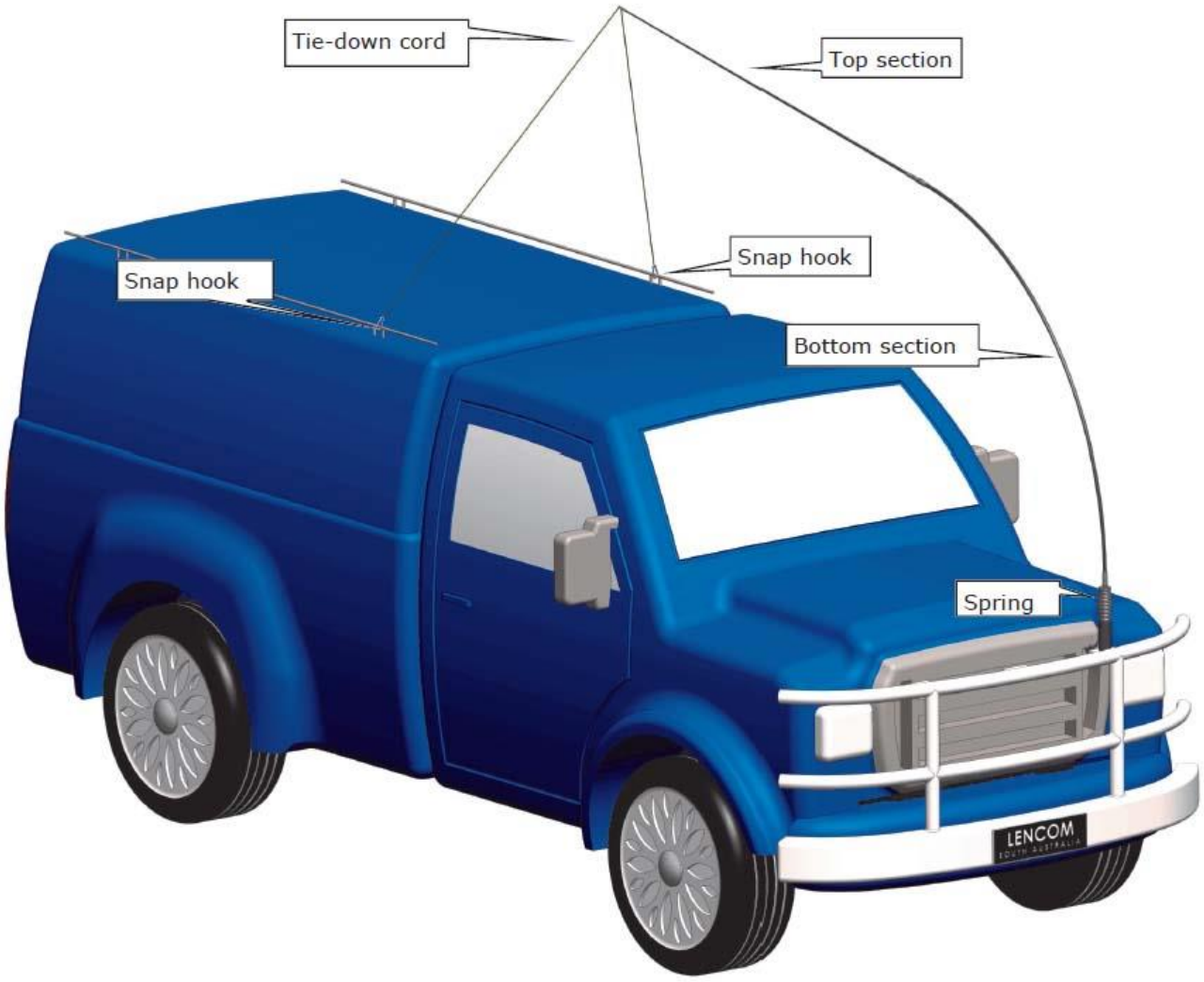
NVIS can be used with standard HF radio equipment, making it a versatile option for emergency communication. Many amateur radio operators already have the necessary equipment, and with minor adjustments, they can switch to NVIS mode. This versatility ensures that NVIS can be quickly deployed when needed.

To implement NVIS communications, several factors need to be considered:

Frequency Selection: The choice of frequency is crucial for effective NVIS communication. Lower HF bands, such as 3.5 MHz (80 meters) and 7 MHz (40 meters), are typically used for NVIS as they are more effectively refracted by the ionosphere at steep angles.

Antenna Configuration: The antenna should be positioned horizontally and close to the ground, usually between 1/10th and ¼th of the wavelength above the ground. This low height helps achieve the high-angle radiation necessary for NVIS. Lifting the antenna, reduces ground losses, and provided gain to the NVIS signal.

Transmitting Power: While high power is not always necessary, having a transmitter capable of 100 watts or more can help ensure reliable communication, especially during daytime, when ionospheric conditions may be less favourable.



Completed assembly

NVIS is widely used in military vehicles, where a long whip antenna is bent over the top of the vehicle, directing the signal skywards.

These two additional modes of HF do not give the long-range DX that most hams think about HF, but they are never the less, very interesting modes for short to medium-range communications,

So, perhaps it's time for hams to start playing with these propagation modes. Because there is so much more to HF, than just putting up a big high antenna

FT8 – SUPERFOX CRACKED

A SuperFox key, according to the issuer, allows WSJT-X to operate in SuperFox mode. It is tied to a specific callsign. A SuperFox key is made available to the leader of a Dxpedition activating a rare entity — or other operations that need to support very high QSO run rates using FT8. Examples include (but are not limited to) highly desired IOTA expeditions, Grid Square expeditions, or Special Event Stations. SuperFox mode is not intended for casual use or contesting.

Leadership qualification is determined by an applicant's association with the Dxpedition or event callsign on QRZ.com, or on the Dxpedition or event website.

An application for a SuperFox key may be made at any time prior to the planned operation. The key will be communicated to the event leader approximately 30 days prior to the start of the event. Since the key must be kept private, communication of the key can only be delivered by a voice telephone call, secure iMessage, secure Zoom video call, or PGP/GPG encrypted email.

One of the features of the Superfox version of FT8 for Dxpeditions was a security key to validate the Dxpedition station as being really who they say they are and not a pirate station using their call sign.

Why would a station pirate another callsign? I don't know, but apparently, there are stations who do this, at least on FT8

Recently, this security has been cracked enabling stations to claim that they are a rare Dxpedition station and those people working them are disappointed when they find that they did not work the Dxpedition station after all.

One reason that has been put forward in the Funk-Telegramm article for the code being cracked is the fact that multiple valid Dxpeditions have been refused the needed security key to run SuperFox mode.

The keys are NOT managed by the WSJT group but by the NCDXF and it has been suggested in the article that their refusal to issue keys to some requesters "de-valued" Dxpedition groups that were rejected, lowering the group's chances of maximum contact numbers in the FT8 mode. *Note: The accusation is only an accusation but does not mean that it is accurate.*

I do note that Nauru, C21MM has been issued a Superfox key, but other applicants were declined, meaning that they cannot verify their expedition, nor can they use the multi-contact mode. Unless they use a hacked key. Of course, this also allows the Fake stations to do the same.

The WSJTx group are working to increase key security, but it would seem that such key allocations could be better performed by an international independent body, rather than by a single US club who is also involved in running and sponsoring Dxpeditions. If for no other reason than to make such accusations harder to make. This might make such cracks less valuable to other hams.

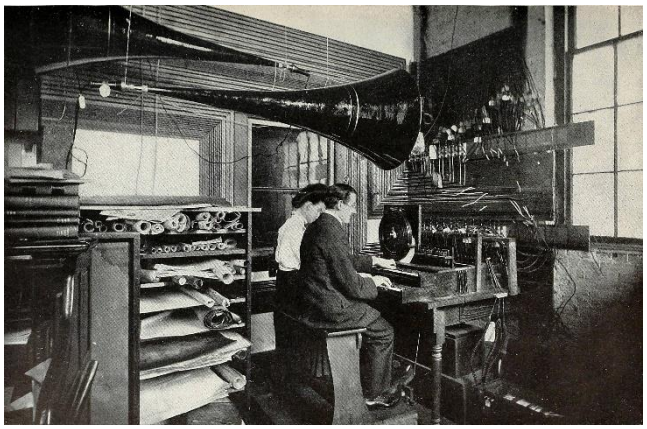
Did You Know How Old Many Modern PC Features Really Are?

The Digital Stylus Pen

I have to admit, I thought this would be the apple Newton, but in reality the first stylus was a light pen, invented in the late 1940s for CAD work, and was common on many 8 bit systems, including the Nintendo (The NES Zapper) , Anyone remember the Duck hunt game?

Electronic Music.

OK so having built my own theremin (Buildings is easy, Playing it is hard) but actually the earliest go back to the 1800s with the pianola, The Theremin (named after its inventor was in 1920 - and yes it's a Russian invention. Patented in 1928. Mod files and musical composition were common in the 1940s and the programmable synthesiser was in the 1950's (Predating the psychedelic 60s)

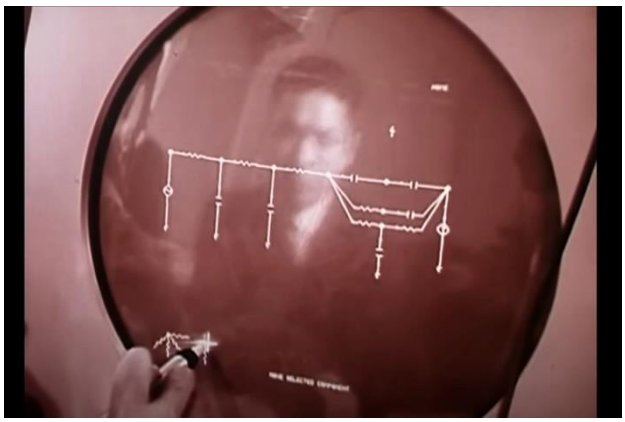


Streaming Music

Look up the Telharmonium, Patented in 1897, this used tone wheels and electricity to send music over telephone wires , sadly without an amplifier, it could only be heard on a telephone speaker. By the time the amplifier was ready, AM radio had replaced it.

Computer Graphics and Animation

OK so a later starter, But in the 1960s Bell Labs was working on Project Muse, In addition to ASCII Art, it scanned images in greyscale to produce bit pixelated icons, and with stereographic 3d images were also made.

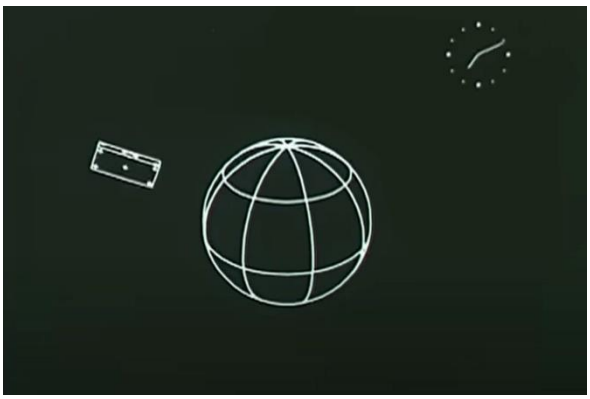


Digital Prototyping

Bell labs were busy in the 60's and they score this one too. Using a crt screen and a light pen you could move components and draw traces, So this predates the first integrated circuit.

1960 ⟶ *2024*

Visual Effects

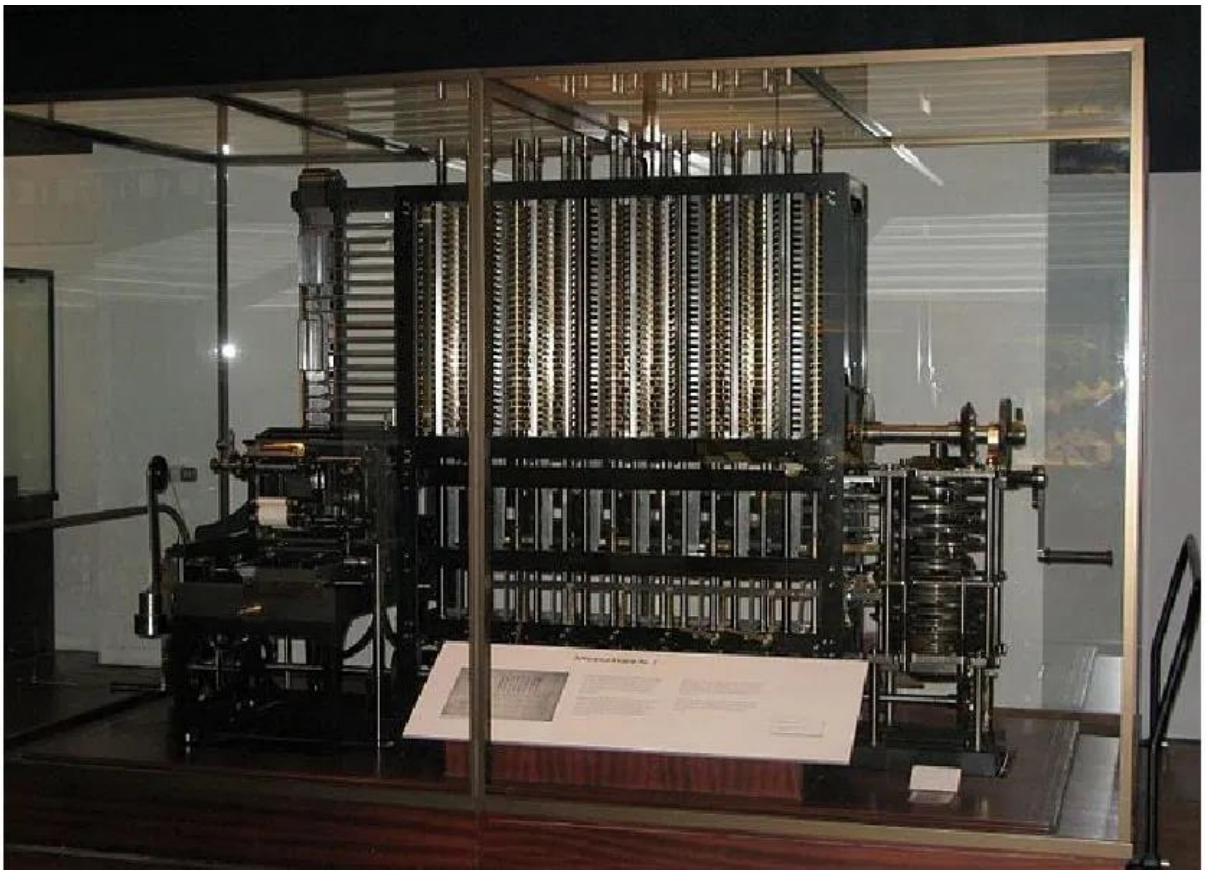


IF you thinking the 70's and 80's with George Lucas, YOU'RE A DECADE LATE, … Yep Bell labs was a real centre of innovation back then, But the images wire hand drawn, and used plotter programmes to render, but they became the basis of many computer games, movies and animations.

Computer speech

Alexa Siri and modern AIs owe their existence to the invention of the 1930's Yep speech was broken down, and recreated by computers.

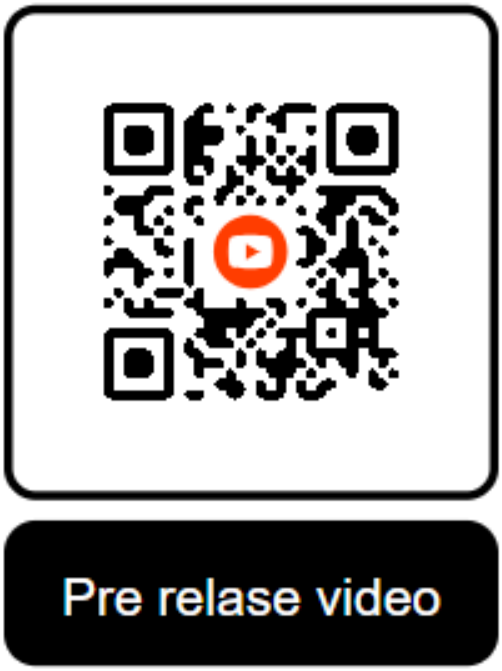
And of course the computer itself is also very old with analogue computers existing since the time of Archimedes, The abacus as a calculating machine may not be a true computer, but difference engines that works out tidal charts with incredible accuracy



Charles Babbage's Difference Engine Circa 1820s

SDR TELEVISION SOFTWARE

An announcement on You-tube, and SDR-Radio.com has given us an insight in to a development project that will allow SDR radios to receive, and in some cases transmit, Television signals



SDR Television is a pure software solution for DVB-S2 H.264 / H.265 / AAC digital television. No hardware such as the MiniTiouner is required, just a SDR such as Pluto or Lime if transmit support is required, otherwise even a RTL SDR suffices.

This software is still being developed, tentative preview date before February 2025, official preview April 2025.

CPU load is low – typically 2% or less of an i5-13600F
MER is around 10 dB
There is a diagnostic display show key decoding status values

Much more information is promised to come over the next weeks and months including transmit support.

To see a recording showing SDR Television playing content from the geostationary QO-100 beacon, scan the QR code above to be taken to the YouTube Video.

OLD STYLE SEL-CALL

If you know about Selcall (Selective calling) you know that it uses a number of tones to send a signal to a radio. This can tell them you want to speak to them triggering a ringing-type response. The 4 tone version is still common in aviation comms, and many two way radio systems uses variations of the system

But did you know about the Old style DTMF Selcall Codan style 1961 technology.

Figure 2 Original type 6104 AM set. Note the two tin whistles to be blown to initiate an emergency call

For those interested in such things this was the first commercial Codan radio. The date of conception is reflected in the first two digits of the model number (61 = 1961).

The set had a hybrid construction with valves in the final amp (EL83 & EL86) and using simple Germanium Junction Transistors for the IF and other functions (OC35, OC44, & OC170).

How things have moved on! The first fully solid state unit was the 6801 (1968) which was all transistorised and used a mix of thick film hybrids and other components for generating tones etc.

I just love the Idea of blowing a set of whistles to generate In-Band Signalling

Thanks to David (ZL1MR) for sharing this.

It reminded me of servicing telephone answering machines, Yes I'm old, and many had a handheld DTMF generator to create the two tones, to send the code to playback your messages remotely as many telephones of the day did not have DTMF capability.

To use it, you simply held it to the mouthpiece of the phone, and sent the tones along the phone line.

These were also very popular with students, as you could often make calls from payphones using the generators, without needing to insert coins, so we had to carry a stock to replace the stolen ones.

DTMF is still used on amateur networks for IRLP linking, and if your radio can't generate the DTMF tones, one of these would have been handy, But fear not, you can always download an app like "Simply DTMF Tone Generator" on your phone and hold your phone near the Mic,

And yes, it allows delays so the tones are not sent too fast

HEARD AROUND THE SCENES

FreeDMR NZ (New Zealand) is a digital mobile radio (DMR) network offering several advantages for amateur radio enthusiasts, particularly those interested in digital communication. Here are some reasons why people might consider using FreeDMR NZ:

1 - Free and Open Access - FreeDMR NZ is an open network, meaning it's accessible to any licensed amateur radio operator without subscription fees. It promotes a sense of community and inclusiveness among radio users in New Zealand and beyond. 7 7

2 - Global Communication - FreeDMR allows users to connect with other radio operators around the world. The network supports international talk groups, making it easier to have conversations with people across various countries.

3 - Flexible Infrastructure - FreeDMR networks often offer flexibility in linking repeaters and hotspots. Users can configure their own devices to access the system via personal hotspots or local repeaters, giving them more control over their communication setup.

4 - Reliable and High-Quality Audio - As a digital system, FreeDMR offers clearer and more reliable audio compared to traditional analog radio systems. It is less prone to noise, static, and interference, providing a better overall user experience.

5 - Interconnectivity - FreeDMR NZ offers connectivity to other digital modes like D-Star, Yaesu System Fusion, and NXDN through various bridges. This interoperability makes it easy to switch between different modes or systems while staying on the same platform.

6 - Community-Driven - FreeDMR is typically run by volunteers and supported by a community of enthusiasts. This often results in a strong focus on user experience, innovation, and a cooperative spirit, fostering a tight-knit community.

7 - Scalability - The network can grow as demand increases, making it future-proof. Users can expect ongoing improvements and new features as the community and technology evolve.

8 - Local and Regional Coverage - FreeDMR NZ offers strong local and regional coverage with repeaters distributed throughout New Zealand. This ensures that users within the country can stay connected even in remote areas.

9 - Customizable Talk Groups - The network provides customizable talk groups, so users can participate in conversations that match their interests, whether they're local or international. Overall, FreeDMR NZ is a modern, flexible, and accessible system that offers a great way to explore digital amateur radio while engaging with both local and global communities.

Regards Phil ZL2RO
Email info@dvnz.nz
Here is link to the FreeDMR NZ dashboard https://freedmr.dvnz.nz

Whangarei Branch Featured in New Zealand Herald

The New Zealand Herald has recently published an article about amateur radio and the Whangarei Branch. You can read the article in full HERE

Still For Sale:

1 x Baofeng UV5R, In box, with NZ power supply, As New Not yet programmed - $40.00 ono
1 x Pofung UV-82 With Charger. Used, But in Good Condition - $35.00 ono
2 x Quinsheng Handhelds (Single Frequency Models) Dual Band
Includes 1 Hand Mic + with Antenna $80.00 for the set. Ono

Being sold by a licensed dealer on behalf of a club member, Will only be sold to licensed Hams, and details of the sale will be given to RSM.

Contact ZL1NUX (Contact Details on the Back page of the newsletter) for more details, or to hear these on Air.

The next NZART broadcast is on the 24th November 2024 at 8:00 pm (replayed at 9:00 pm) and will be posted on the website about the same time..

The HF broadcast is made on 3900 KHz, LSB at the top end of the 80m band. It will be rebroadcast in the Auckland area on the 6625 Repeater, and is available on the NZART website: NZART-Official Broadcast

I think my ham radio equipment may have fallen in love with me.

It hasn't said anything but I've been picking up a lot of signals.

A man gets into a car accident and goes to the doctor

when he gets home his wife asks him, "What did the doctor say?"

He responds "the doctor says I have a flukie"

Not knowing what a flukie is she goes and asks her neighbour what she should do to treat it, Her neighbour tells her "I don't remember exactly what that is, but I think that you have to do a hot compress on it"

Not liking that answer she asks her other neighbour what a flukie is
that neighbour responds "Oh I remember it's serious but I can't remember what exactly that is, But you have to keep it cold."

Now she is all kinds of confused and decides to call the doctor.
"Doctor, My husband came and saw you today after his accident, can you tell me what his prognosis was?"

The doctor responds "I told him he got off lucky."

A Study has confirmed swearing is one of the keys to living a long life.

This may explain why there are so many old ham radio operators, and they all seemed to have spent lots of time fixing old valve radios.

SOME NETS – FOR WHEN YOU ARE LOOKING FOR SOME COMPANY

Day	Time (NZST)	Freq (MHz)	Group
Sunday	08:00	3.750	Southern Net
	08:00	**146.625**	**Br 65 – Papakura Net**
	09:00	3.700	Br 10 - Franklin
	09:00	**3.755**	**Br 65. Papakura.**
	09:30	146.900	Br 10 – Franklin ZL1SA
	19:00	146.700	Auckland YL Net
	19:45	145.575	Thames radio club ZL1DF
	20:00	3.710	Br 42. Titahi Bay
	20:15	146.625	Sunday News and Net (Auckland)
	21:30	3.595	Duran WIA Net.
Monday	11:30	3.850/7.125	Br 12. Hamilton
	19:30	3.757	Br 12. Hamilton
	20:00	Echolink	Basic Morse (ZL1PX)
	20.00	3.540	CW Practice Net
	20:00	3.605	Br 80. Hibiscus Coast
	20:30	3.870	O.T.C (Old Timers Club)
Tuesday	09:00	7.096	Ex Post Office Techs
	19:30	3.690	QRP ZL3TK
	20:00	3.581	CW improvers Net
	20:00	7.025 – 7.040	VK CQ QRS Group (CW)
	21:00	1.850	160m Net
Wednesday	11:30	7.125	SPAM Net
	18:00	14.049	VK CW NET
	19:30	146.700	ZL1AB Net
	20:00	3.660	Geek Net
	20:00	3.645	Br 02. Auckland
	20:30	146.525	W.R.S.C
Thursday	09:00	7.096	Ex Post Office Techs
	18:00	7.0674	SAS Net (CW)
	20:00	3.615	Br 89. REG Net
	20:30	3.696	ZL1OA
	20:30	3.666	LF Net ZL2CA
	20:00	3.690	ZL QRP SSB Net
Friday	20:30	3.850	SPAM (AM Mode)
	20:30	3.650	W.S.R.C.
	20:30	3.560	Digital Modes Net
Saturday	10:30	28.530	10-10 Down Under (AK Based)
	19:30	3.650	Christian Fellowship
	20:30	3.600	Br 62. Reefton/Buller
Daily or Other	07:30	3.696	ZL2OA
	08:30	3.730	ZL3RP
	15:00	14.300	Pacific Seafarers
	17:30	3.760	Home Brew
	05:00 Zulu	14.183	ANZA DX Net
	18:00	7.115	VK7OB
	19:30	3.720	ZL1MO
	18:30	3.766	ZL3LE
	08:00	3.730	ZL3DAC
	20:30	3.725	ZL2HN / ZL4RF
	21:00	3.677	Counties Net ZL2MA
	21.00	3.535	New Zealand Net (CW)

Our desire is that this will be a living list,
Please email zl1nux@outlook.com any updates, deletions or changes required.

Papakura Radio Club Inc.
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Westpac 03-0399-0019896-00
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Treasurer	ZL1MR	David Wilkins	021 185 7903
Committee	ZL1DK	David Karrasch	021 560 180
	ZL1IRC	Ian Clifford	021 082 48400
	ZL1RJS	Rob Stokes	021 307 005
	ZL1RIC	Ricky Hodge	027 533 8155
	ZL4MDE	Mike Enderby	021 529 895
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Hall Custodian	ZL1AOX	Ian Ashley	021 198 1810
Newsletter.	Contact:	zl1nux@outlook.com	

Our newsletter is published monthly and normally distributed just before the club meeting. Please forward articles etc to the editor Wednesday 1 week before the general meeting. Please notify any change of address. Including E-Mail Address to the secretary.

Meetings
General Meetings are held at the Clubrooms on the 1st Wednesday of each month, starting at 7.30 pm. Look at your calendar and mark these nights. The speaker follows the General Meeting.
Activity Nights are held on the 2nd Wednesday starting at 7.30 pm.
Committee Meetings are held on the 3rd Wednesday of each month at 7.30 pm unless advised.
Project Evenings are on the 4th Wednesday of each month.
AREC Meetings are on the 5th Wednesday night, also starting at 7.30 pm
AGM: Held in November

Subscription: Full membership and newsletter $25.00 Family Membership and newsletter $40.00
Bank Account number: 03-0399-0019896-00

Working Bees As required.

Branch 65 21 Award: For contacts with ZL1VK (5 Points) and 8 Papakura Radio Club Members (2 Points each). Total 21 Points. Cost $5-00. Certified list and $5-00 to Secretary, Papakura Radio Club. Address above.

ZL1VK Club Nets
146.625 MHz Sunday at 8.00 am. Controller ZL1NUX, Gavin Denby. If the repeater is not available, listen 146.475MHz simplex.

3.755 MHz Sunday at 9.15 am. Controller ZL1BNQ Richard Gamble. (Linked to 146.675 & 438.775)