The Official Newsletter of the

Papakura Radio Club Inc.

July 2025

Connecting the earth and beyond

Contents ...

July Calendar:

Wednesday 2nd will be our General meeting. Kimi will talk about his expereinces with, and how to use IRLP to talk arround the world using just your 2 metre radio. Then we will enjoy an early supper.

We hope to have the speaker from Pacific Aerials in August.

We encourage you to take the opportunity to chat with someone new and make the most of the supper that will follow.

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

Alternatively, you can join the online Teams meeting by clicking the link below

Join the meeting. Note: It will open 10 minutes before the meeting begins.

June Dates

Wednesday 2nd	**General Meeting & Operating your radio remotely**
Wednesday 9th	**Activity Night**
Wednesday 16th	**Committee Meeting**
Wednesday 23th	**Project Night**
Wednesday 30th	**AREC Training**

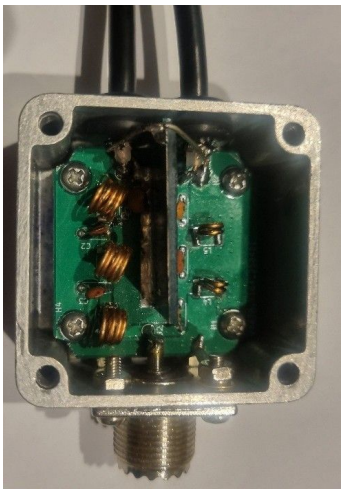
If we each do a Little, it becomes a lot.

Club Activities:

The upstairs tidy up continues, and the kitchen taps have been replaced, due to ongoing issues with the old taps.

We are starting a new project, building a diplexer (allowing a UHF and a VHF radio to share a single antenna) the kit is discussed below.

New Project — VHF/UHF Diplexer



Thanks to an excellent design (reverse engineering) by Rob, ZL1RJS, we have a project to build a new project. The diplexer allows a UHF radio and a VHF radio to be simultaneously connected to a single Dual band antenna.

The Diplexer is effectively 2 filters that isolate the radios from each other, while allowing them to couple to the 50 ohms antenna at a midpoint. Full plans are available on Rob Website, and you can read the instructions at: https://zl1rjs.co.nz/diplexer.html

as this is a natural extension of the Tait radio projects we have already made, the Radio Connection are BNC by default, while the antenna is an SO239 (UHF) connector. If you're after a kit, see the available list below.

ZL1VK Kitsets available now... ex stock... for immediate delivery.

- Anderson Power Pole Distribution, PC Board only... $5.00
- 2 Radio into 1 Headphone set switching between radios, incl. PTT, PC Board only... $5.00
- Radio Interface for digital modes incl. Winlink, FT4, FT8 etc. Complete kit... $69
- Tait Radio TM8100 Series VFO unit... 100 Memories, Complete kit... $120
- Tait Radio VFO Escutcheon... clips over the VFO Unit... $15

The kits above are all designed by Keith Dix, ZL1BQE for the Papakura Radio Club.

- Diplexer... UHF/VHF unit and metal Die-cast box, supplied, complete kit... $35

The Diplexer is a kit designed by Rob, ZL1RJS for the Papakura Radio Club.

The following kit is still being finalised and will be available soon...

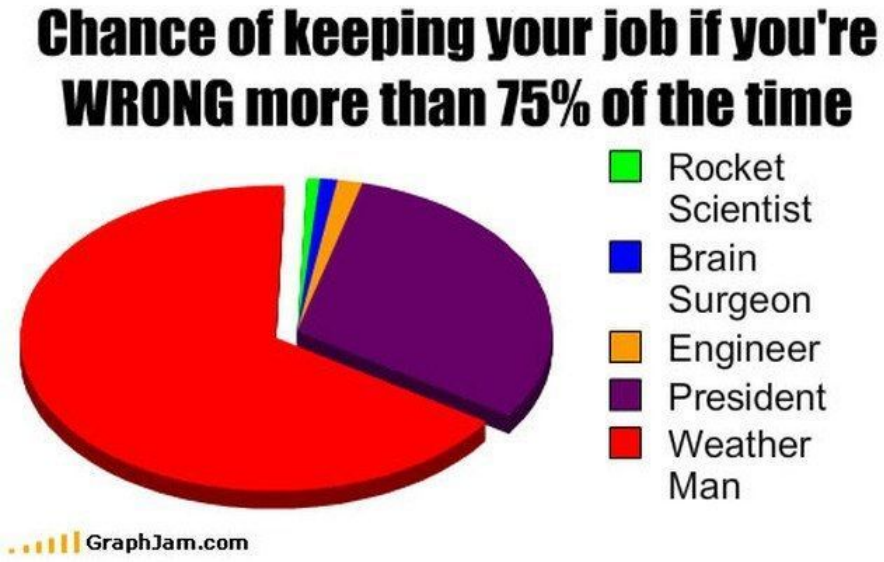
Voice Keyer... Record 4 messages, push button to play selection through TX radio, complete kit.

Collect from the Papakura Radio Club most Wednesdays 7.30pm to 8.30pm or email zl1dk@nzart.org.nz for postage costs etc...

DX Calendar July 2025

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
VP8DPD													JW0V												GM7V					
FP/KV1J																									MD7C					
																										3B9SP				
																								PX8Z						
															5K0C															
														5K0T																
ZC4MK																														
T30TTT																														
9K2HN Kuwait																														
DP0GVN																														

Click any link above for details on the expedition.



Featured DX: VP8DPD Falkland Islands

Gerard VK4BGL/G3WIP will be active as VP8DPD from Falkland Islands, IOTA SA-002,
10 May - 12 July 2025.
He will operate on HF Bands.
QSL via G3WIP buro, LOTW, eQSL.

The Falkland Islands – islands of contention

The Falkland Islands archipelago, covering an area of over 12,100 km², is located in the southern Atlantic Ocean, 450 km east of the coast of Argentina. It consists of two large islands and over 770 smaller rocky formations.

This harsh land with a fairly cool, oceanic climate attracted whalers in ancient times and is now a British overseas territory. For more than two centuries, there has been a territorial dispute between the United Kingdom and Argentina over the right to call the Falkland Islands their own

Turmoil in the South Atlantic

When the English arrived in the Falkland Islands in 1591, they found no permanent settlements and hastened to declare the land the property of the English crown. They were soon challenged by the Spanish, who claimed the islands for themselves.

In 1764, the French navigator Louis de Bougainville founded a settlement on the eastern edge of the archipelago. At the same time, the British began to explore the western tip of the Falklands and established a colony there. Neither side was aware of the other's existence, but everything changed three years later when Spain decided to buy Bougainville's possessions and appoint its own governor to the islands. This resulted in the storming of the English Port Egmont and the expulsion of the redcoats. A year later, the parties signed a peace treaty, but did not renounce their claims.

In 1774, the British were forced to leave the Falkland Islands, and until 1811, the Spanish were the sole rulers of these territories. However, they soon left the archipelago as well. Argentina, which gained independence from the Spanish crown in 1816, declared the Falklands its territory and sent a new governor there in 1832. The local settlers rebelled and killed him, and a year later the British landed on the islands and restored their colony.

Naval squadrons on the horizon

During World War I, a naval battle took place near the archipelago between German cruisers and British battleships. As a result, the German ships were sunk, the squadron commander, Vice Admiral Spee, was killed, and British naval communications in the South Atlantic were restored.

During World War II, Allied ships were repaired and refuelled on the islands. In 1982, Argentine troops landed on the Falklands. This forced the British to send their naval forces there. During a brief skirmish, the Argentines were expelled from the islands. Today, Argentina continues to consider them its territory, calling the archipelago the Malvinas. Interestingly, in 2013, more than 99% of the local population voted to keep the Falklands as an overseas territory of the United Kingdom.

Icebergs and morning fog

The climate on the islands is shaped by cold currents carrying water from the Antarctic coast further north to the La Plata Gulf. Small icebergs can sometimes be seen near the coastline. The average annual temperature is +6-7 °C. Strong westerly winds often blow here, and the proximity of the ocean creates conditions for fog to form over the islands. Precipitation during the year is about 600 mm. Most of it falls on East Falkland, as the western parts of the archipelago are quite arid.

The archipelago's coastline is very indented. Numerous fjords cut deep into the land, forming bays into which small streams flow. There are no large rivers on the islands. The highest hill, Usborne (704 m), is located in the eastern part. The flora of the Falklands consists of meadow grasses, ferns, heather, and more than 260 species of flowering plants.

Land of sheep

There are no large animals on the islands. Local foxes were exterminated by settlers in the 19th century. Black-browed albatrosses nest on the coastal cliffs, and there are a few penguin colonies. There are about 7 species of fish and 15 species of marine mammals in the ocean waters. There are no reptiles, and the entire archipelago is a veritable sheep pasture. In the 19th century, settlers from Europe brought sheep to the islands for wool, meat, and milk. Today, the animals have multiplied so much that there are more than 170 sheep per Falkland Islander. There are about half a million of them here.

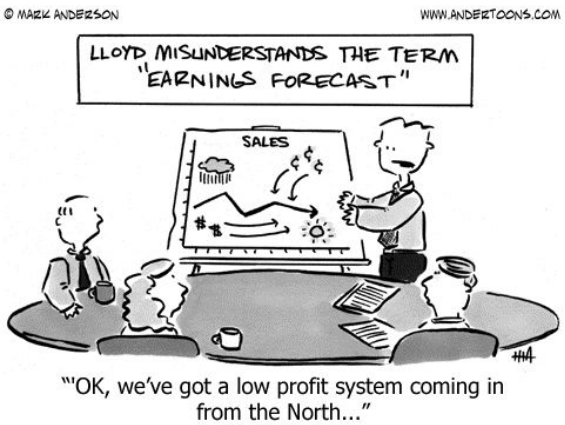
Descendants of whalers

Less than 3,000 people live on the islands, mostly in the only settlement, Port Stanley, located on the eastern island. The locals are descendants of whalers and sailors. The English, Norwegians, and Chileans communicate mainly in English and Spanish. The main occupations of the islanders are fishing and sheep farming, with the wool being exported to England. Oil and gas exploration is underway on the continental shelf. There are two seaports and an airport on the archipelago, and ferries carry residents and cargo between the largest islands.

The Falkland Islands – islands of discord, land of morning mists and fine-wool sheep!

VP8DPD. Where are Falkland Islands are located.

VP8DPD Falkland Islands. Sunrise 06-28-2025 at 12:04 GMT sunset at 19:58 GMT



Upcoming Contests

July 2025

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

Start - Finish Date-Time				Bands	Contest Name	Mode	Exchange	Sponsor's Website
1	0000	1	2359	1.8-28,50,144	RAC Canada Day Contest	CW Ph	RS(T), VE prov/terr or serial	www.rac.ca
1	0100	1	0159	1.8-28,50	Worldwide Sideband Activity Contest	Ph	RS, age group (OM-YL-youth YL-youth)	wwsac.com/rules.html
1	0300	1	0400	1.8-28	QCX Challenge	CW	RST, name, SPC, rig type	www.qrp-labs.com
1	0300	1	0400	1.8-28	ICWC Medium Speed Test	CW	Name, serial	internationalcwcouncil.org/ mst-contest
2	1700	2	2100	144	VHF-UHF FT8 Activity Contest	Dig	4-char grid	www.ft8activity.eu
3	0000	4	0300	7	Walk for the Bacon QRP Contest	CW	RST, SPC, name, mbr or pwr; 13 WPM max	qrpcontest.com/pigwalk40
3	1800	3	2200	28	NRAU 10m Activity Contest	CW Ph Dig	RS(T), 6-char grid	nrau.net
3	1900	3	2100	1.8-28,50	SKCC Sprint Europe	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
4	0100	4	0130	1.8-28,50	NCCC FT4 Sprint	Dig	4-char grid	www.ncccsprint.com/ft4ns. html
5	0000	5	2359	1.8-28	Venezuelan Independence Day Contest	CW Ph Dig	RS(T), serial	radioclubvenezolano.org
5	0000	5	2359	1.8-28,50	FOC Old School Classic 1960s QSO Party	CW	Actual RST, 3-letter class, year first li-censed, name	www.g4foc.org
5	0800	6	1100	3.5	NZART Memorial Contest	CW Ph	RS(T), serial	www.nzart.org.nz
5	1200	6	1200	50,144	CQ Worldwide VHF SSB/CW Contest	CW Ph	4-char grid	www.cqww-vhf.com
5	1200	6	1200	50,144,432	TA VHF/UHF Contest	CW Ph	RS(T), serial, 6-char grid	trac.org.tr
5	1400	6	1400	1.8-28	Marconi Memorial HF Contest	CW	RS(T), serial	www.arifano.it
5	1500	6	1500	3.5-14	Original QRP Contest	CW Ph	RST + serial + "/ " + pwr category	www.qrpcc.de
5	2000	6	2000	7	PODXS 070 Club 40m Firecracker Sprint	Dig	RST, SPC	www.podxs070.com
7	1630	7	1729	3.5,7	OK1WC Memorial (MWC)	CW	RST, serial	memorial-ok1wc.cz
7	1900	7	2030	3.5	RSGB 80m Club Championship, CW	CW	RS(T), serial	www.rsgbcc.org
8	0000	8	0200	3.5-28	ARS Spartan Sprint	CW	RST, SPC, pwr	ars-qrp.com
8	0100	8	0159	1.8-28,50	Worldwide Sideband Activity Contest	Ph	RS, age group (OM-YL-youth YL-youth)	wwsac.com/rules.html
8	1800	8	1929	3.5,7	DARC RTTY Sprint	Dig	RST, (DOK/"NM") or serial	www.darc.de
9	1145	9	1300	1.8-28	A1Club AWT	CW	RST, name	a1club.org/contest/awt
9	1700	9	2100	432	VHF-UHF FT8 Activity Contest	Dig	4-char grid	www.ft8activity.eu
12	1200	13	1200	1.8-28	IARU HF World Championship	CW Ph	RS(T), IARU HQ soc or ITU zone	www.arrl.org/iaru-hf-world-championship
12	1200	13	2359	1.8-28,50	SKCC Weekend Sprintathon	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
13	2000	13	2300	1.8-28	QRP ARCI Summer Homebrew Sprint	CW	RST, SPC, mbr or pwr	qrparci.org
14	0000	14	0200	1.8-28	4 States QRP Group Second Sunday Sprint	CW Ph	RS(T), SPC, mbr or pwr	www.4sqrp.com
15	0100	15	0159	1.8-28,50	Worldwide Sideband Activity Contest	Ph	RS, age group (OM-YL-youth YL-youth)	wwsac.com/rules.html
16	1700	16	2100	1.2G	VHF-UHF FT8 Activity Contest	Dig	4-char grid	www.ft8activity.eu
16	1900	16	2030	3.5	RSGB 80m Club Championship, SSB	Ph	RS + serial	www.rsgbcc.org
17	0000	18	0300	14	Walk for the Bacon QRP Contest	CW	RST, SPC, name, mbr or pwr; 13 WPM max	qrpcontest.com/pigwalk20
17	0030	17	0230	3.5-14	NAQCC CW Sprint	CW	RST, SPC, (NAQCC No./pwr)	naqcc.info/sprint_rules.html
17	1900	17	2000	3.5-14	NTC QSO Party	CW	RST, SPC, mbr or pwr	pi4ntc.nl/ntcqp
18	0145	18	0215	3.5-28	Weekly RTTY Test	Dig	Name, SPC	radiosport.world/wrt.html
19	0000	20	2359	1.8-28	LABRE DX Contest	CW Ph	RS(T), 2-ltr state or 2-ltr continent	www.labre.org.br
19	0700	19	1459	7,14,21,28	Russian Radio Team Championship	CW Ph	RS(T), mbr code or ITU zone	srr.ru
19	0800	19	1400	1.8-7	Trans-Tasman Low-Bands Challenge	CW Ph Dig	RS(T), serial	www.wia.org.au
19	1000	19	2159	3.5-28	YOTA Contest	CW Ph	RS(T), age	yotacontest.mrasz.org
19	1200	19	1359	1.8-28,50	Feld Hell Sprint	Dig	RST, mbr, SPC, 4-char grid	sites.google.com/site/ feld-hellclub
19	1200	20	1200	50,144	CQ Worldwide VHF Digital Contest	Dig	4-char grid	www.cqww-vhf.com
19	1400	20	1400	70	IARU Region 1 70 MHz Contest	CW Ph	RS(T), serial, 6-char grid	www.iaru-r1.org
19	1800	20	0559	3.5-28	North American QSO Party, RTTY	Dig	Name, SPC	www.ncjweb.com
20	0900	20	1600	3.5-14	RSGB International Low Power Contest	CW	RST, serial, pwr	www.rsgbcc.org
20	2300	21	0100	1.8-28	Run for the Bacon QRP Contest	CW	RST, SPC, mbr or pwr	qrpcontest.com/pigrun
22	0100	22	0159	1.8-28,50	Worldwide Sideband Activity Contest	Ph	RS, age group (OM-YL-youth YL-youth)	wwsac.com/rules.html
23	0000	23	0200	1.8-28,50	SKCC Sprint	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
24	1900	24	2030	3.5	RSGB 80m Club Championship, Data	Dig	RS(T), serial	www.rsgbcc.org
26	0000	27	2359	1.8-28,50,144	MARAC US Counties QSO Party	CW Ph Dig	RS(T), state and county or "DX"	www.marac.org
26	0000	27	2359	28	FRAPR 10M Contest	CW Ph	RS(T), pwr	www.frapr.org
26	1200	27	1200	3.5-28	RSGB IOTA Contest	CW Ph	RS(T), serial, IOTA no.	www.rsgbcc.org
26	1200	27	1200	50	ARAM 50 MHz Contest	CW Ph	RS(T), serial, 6-char grid	www.aram.pt
26	1500	27	0300	3.5-28	Alabama QSO Party	CW Ph	RS(T), AL county or SPC	alabamacontestgroup.org
27	1700	27	2100	7,14,21,28	ARS Flight of the Bumblebees	CW	RST, SPC, pwr, or Bumblebee number	ars-qrp.com
28	1900	28	2100	3.5-28	RSGB FT4 Contest	Dig	Signal report	www.rsgbcc.org
29	0100	29	0159	1.8-28,50	Worldwide Sideband Activity Contest	Ph	RS, age group (OM-YL-youth YL-youth)	wwsac.com/rules.html

There are a number of weekly contests not included in the table above. For more info, visit: **www.qrpfoxhunt.org**, **www.ncccsprint.com**, and **www.cwops.org**.

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

Toilets on the Air?

At the upcoming HOPE_16 in NYC, HOPE stands for (Hackers on Planet Earth) is a welcoming place for hackers of all types: makers, artists, educators, experimenters, tinkerers, and more! If you're interested in playing with technology, coming up with new ideas, learning from others, and sharing your knowledge, then this is the place for you!

Topics include:

- *Writing and Analysing Software*
- *Intrusion Methods and Defence*
- *Spying, Counter-intelligence, and Tradecraft*
- *Social Engineering*
- *System Architecture, Design, and Circuitry*
- *Social Impacts of Technology*
- *Hacker Morality*
- *Cryptanalysis, Cryptology, Cryptography*
- *Election Security*
- *Artificial Intelligence*
- *Infrastructure*
- *Green Tech*
- *Retrocomputing*
- *Telephony*
- ***Ham Radio***
- *Quantum Computing*
- *Censorship*
- ***Linux***
- *Biometrics*
- *Anonymity*
- *Engineering*
- *DMCA*
- *Net Neutrality*
- *Right to Repair*
- *Cyberterrorism*
- *Biohacking*
- *VPNs*
- *Hackerspaces*
- *Ransomware*
- *Government Institutions*
- *Privacy*
- *Exploits*
- *Surveillance and Countersurveillance*
- *Coding*
- *Pentesting*
- *Tiger Teaming*
- *Trashing*
- *Bluetooth*
- *Cybercrime*
- *Malware*
- *Military*
- *GDPR*
- ***Mesh Networks***
- *Log4J*
- *Whistleblowing*
- *Shodan*
- *Smartphones*
- *Viruses*
- *Robotics*
- *Phreaking*
- *Car Hacking*
- *Stuff Not on This List*

HOPE_16 is an all-ages event with at least four speaker tracks, a whole bunch of workshops, awesome vendors, and fun activities throughout the entire weekend. Todd (KE2AEQ) is launching a brilliantly fun, tongue-in-cheek radio activity called Toilets on the Air (TOTA) — inspired by Georg (DH5GH) and the German hacker scene.

Yes, Toilets on the Air. But before you flush the idea entirely (sorry!) read on…

Much like POTA and SOTA, TOTA is about getting on the air from a defined activation zone — in this case, just outside conference restrooms.

It's lighthearted, but there's a serious side too: TOTA promotes hands-on, hyper-local ham radio experimentation in environments that aren't traditionally OTA-friendly. Modes like SSTV, APRS, and even CW can shine in this creatively constrained space.

TOTA includes Activators, Chasers and Hunters and even allows T2T (yes Toilet to Toilet) communications over 2 metres and 70Cm bands. In Todd's own words, it's a way "to have fun, to experiment, and to use our precious spectrum space." I couldn't agree more, and it appeals to my sense of humour .

And the official TOTA watch site: https://hope-16.totawatch.de/

Maybe an equally fun event of this type may be rolled out for the 100th anniversary event in Auckland next year?

Who knows what could be done with some hidden low power RF gear and some method of logging a contact with it.

Still have an old Nokia 3310 lying around. Maybe its an M17 Project

The Nokia 3310 was a hugely successful product for Nokia, becoming one of the most successful phones ever made. Released in September 2000. Designed for both GSM and TDMA networks, it is one of those phones that keep popping up in junk sales and you may even have a set of cables floating around in a drawer for these units.

M17 on the other hand is an open source Digital Radio mode made to allow for experimentation my Ham radio enthusiasts who wanted to ave a digital mode that is not using commercial codecs, or commercial chipsets.

Hardly the most likely bedfellows. BUT, in a recent linkedin post Wojciech Kaczmarski SP5WWP, a founding member of the M17 project posted that can now order pre-assembled PCBs for the M17-3310 project on PCBWay, I took a closer look at the project.

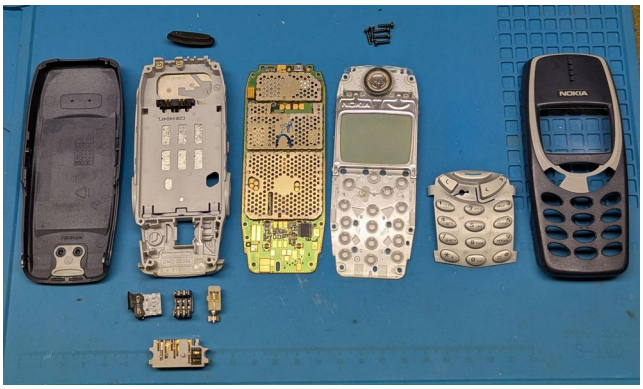
This is a circuit board that can be installed in an old Nokia 3310 instead of the original mainboard. This board enables FM/FSK/M17 communication on the 70cm band and turns the good old 3310 into an interesting toy in conjunction with the M17 project.

Currently there is a simple firmware that provides M17 messaging support with T9 text entry method. “The device can be powered with original Nokia lithium-ion batteries or their replacements and is able to charge them through the USB-C port. A UART USB interface is available, allowing the device to work as an RF modem.”

The Gerber files are openly available, as are the KiCad files for the project. The Radio Modules is a **G-NiceRF SA868S UHF RF module** to which the OpenRTX firmware must be flashed. This allows 1 watt of Rf power.

The radio is controlled by an STM32F405RGTx processor which runs the screen and radio and allows m17 messaging using the T9 method of text entry (yes just like the original Nokia used)

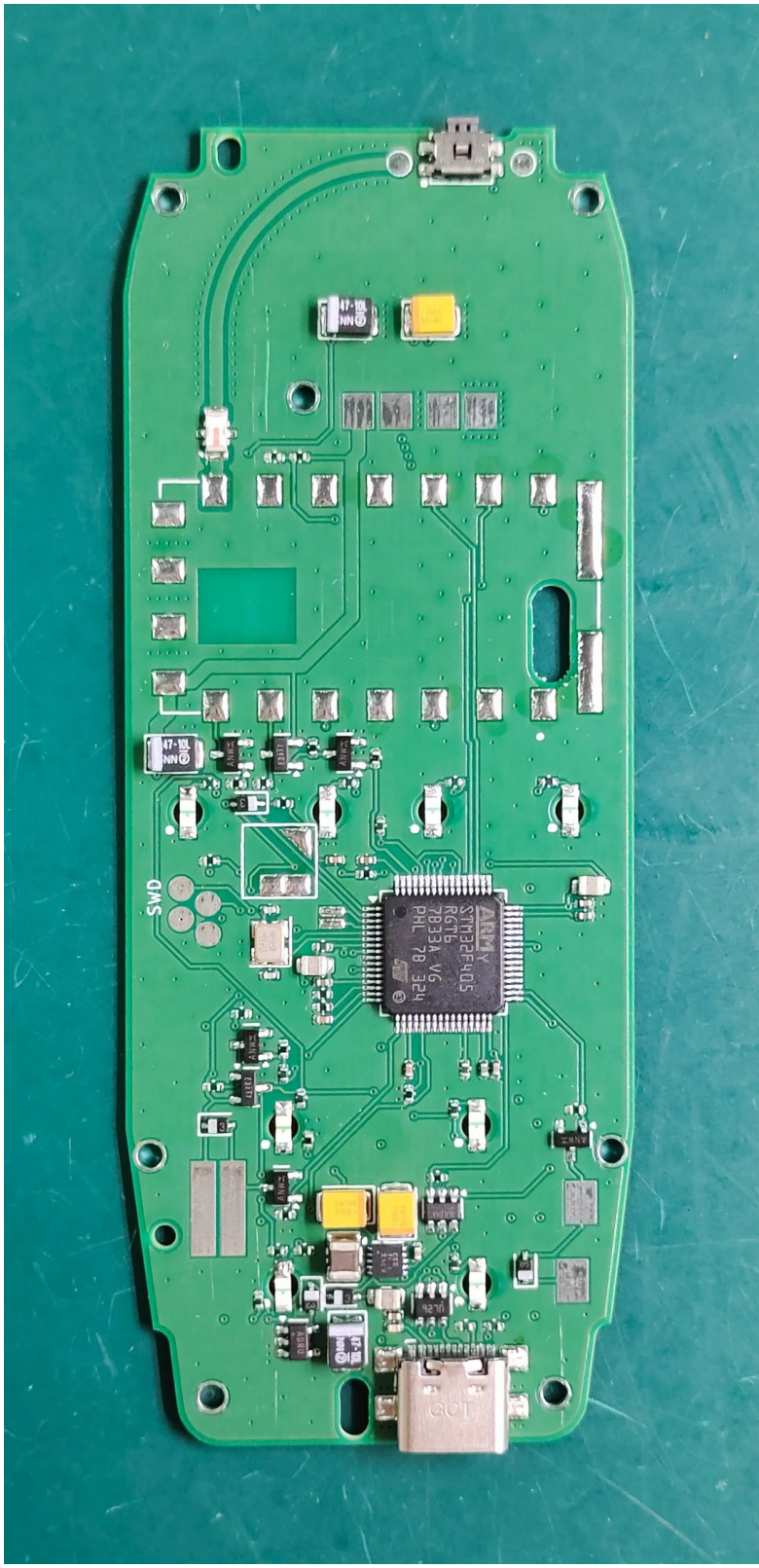
The project requires dismantling the 3310 and replacing the main PCB with the M17 model, then reusing the screen, Keypad,Speaker, battery and Mic from the phone to make the radio operate in the original case.



The M17 PCB is then populated with the components, information can be found in the KiCad project files, which are part of the project on GitHub. In addition, If you want a kit can be ordered through PCBway with proceeds going back to the M17 Project

The board on the right is made up, with space reserved for the SA868 RF module to be fitted.

The project is not for the timid, and could easily become expensive, especially if you have to purchase the phone, or you feel uncomfortable with soldering very small SMD components, but turning an old Nokia phone, that may be taking up space in a junk draw, into a modern FM, M17 digital radio & FSK modem, would certainly make a fun project, and using such a radio would definitely turn a few heads.



Ramblings from the editor's desk

Half way through the year? HOW? Where has the year gone?

To be honest, I have no idea, but the shortest day has been and gone, and the Auckland dam water levels are 10% higher than statistical levels, and indicate the levels of rainfall we have experienced this winter. My solar panels are producing modest amounts of electricity, but well below the levels needed to manage the electrical loads of the house, At best we are getting about 50% of our power, and on some days, it is hard to imagine its even operating. But from here on in, the days get a little longer as the sun starts it way back south, and every day gets a little longer.

Another big change for me, is in my work life, where we are in the process of moving some of our classes to a new site, this has made us look at a large number of our resources and ask if they are still fit for purpose, if they could use an upgrade, or perhaps if it's time to replace them. Sort of a spring clean for a training facility. (Yes, I know how much I need one here at home too). But in the process, I have started thinking, and you should know how dangerous that is.

So my first question, is are we past the days of the newsletter? How Ironic. A newsletter discussing the irrelevance of newsletters. But look back to the start of this newsletter, In-fact, read it, and you find just about every link takes us to a website. We live in an age of Blogs, Podcasts and Vlogs. Audio and Video are the way most of us access information. not necessarily good information, but studies have shown that we believe video, more than textbooks. And the younger we are the more we are impacted by the quality of the graphics (even computer generated ones).

In fact, in the past we would have given you all the details for our latest project in this newsletter, But today, all we have done, is given you a link to Rob's website, where all the details exist. They are searchable, and available to anyone with web access. Just think about what that means. You have more access to information about Ham radios than any generation before you. And it's not just service manuals and firmware upgrades, but projects, sites like Reddit, Ham radio secrets and Ham Radio Prep, even the ARRL material, without having to drive to buy a copy of the ARRL handbook. In fact in many shacks the PC takes up more real estate than the radios.

But despite all this resource, we seem to mostly use it to find discounted hardware, Temu. Ali-express and banggood being the place where or gadgets come from, while newsletters lie unread in our inbox, or on out coffee tables.

And to prove that point I need only look at my own coffee table, where about half of what's there is still unread, and each morning I only find time to skim read most of what's in my in-box. I dont blame anyone, we're all just too busy to take time to read everything that comes our way. So could we make it smaller, easier to read, but still keep the information flowing?

So I wonder, would it be better if the club had a blog that articles were posted when and as ready, rather than waiting to send out everything all at once in a newsletter? It would be searchable, It could contain better linking, it would be easily accessed by other hams around the world, and could attract national or even international contributors?

Would we find it easier to digest in small parts? Should we move past the newsletter?

But at the same time, I'm thinking about how as a hobby we are almost totally dependant on large commercial companies for all our solutions.

It's not a secret that most of the amateur radio community depends on large companies (Icom, Yaesu, Kenwood, even Motorola, for DMR repeaters) and solutions they provide. The status quo is all about keeping hardware and software proprietary, minimizing users' chances to modify it. While there are new models of radios being advertised all the time, they do not offer anything new. This keeps the amateur radio world in a state of artificially sustained technological stagnation, short-sightedly throttling down the progress in order to maximize someone's profit. It's been already shown that community-driven projects can lead to technological advancements - the advent of MMDVM, M17, OpenRTX, WPSD, OpenWebRX, and many others.

Stock, commercial firmware mostly lacks functionalities amateur radio operators seek. The reason behind that is simple - large corporations often don't have a clue what amateur radio operators want. A solution to this seems very simple - let skilled users write their own replacement firmware, then release it under an appropriate open license, for the rest to use. Sounds easy, but as always, there's a catch. The firmware flashing process is not always easy (binary files are almost always obfuscated) and requires a fair amount of reverse engineering effort.

The pitfalls of volunteer-based work

Volunteering is a wonderful work model - you get excellent, qualified workforce for free. It allowed many amazing projects to appear - MMDVM, OpenRTX, WPSD, M17, to name a few in the amateur radio community. There is a big problem behind it though - volunteers can rarely be bound with any obligations or time constraints. This also means no one can have any expectations against volunteers. They can be distracted, their reliability and commitment can span from anything between extremely enthusiastic to hardly interested. It is understandable that people prioritize tasks in their lives - family and daily job is by far more important for most of us than hobby-related projects.

This reveals the first issue of volunteer-based work: the difficulty of scheduling work when there aren't reliable resources available. Moreover, one's good will is not enough to maintain focus on the less fun and more administrative sides of the project. Lifespan of a project can be short regardless of the level of technological advancement offered, due to lack of workforce.

Second issue relates to long term commitment required for sophisticated projects. Many complex functions require more than one person to be involved. This implies project management, reporting, planning and documentation, tasks seldom attractive for volunteers. People come and go, leaving unfinished tasks behind. The turnover rate varies mostly between days and, more rarely, months.

Third issue is maintainer burnout, widespread in the open-source community. Volunteering contributors come and go, but maintainers bear the long-term responsibility for the project's health and sustainability. This burden grows quickly with the project's popularity, leading to a form of burnout that leaves maintainers with emotional exhaustion and a decreased sense of accomplishment. One of the major contributors to maintainer burnout is loneliness.

Another example is the shortage of educational and explanatory materials created by the community, despite the fact that the community has enough knowledge to create it

For this exact reason, most subprojects are run by a single person, or mostly by a single person (e.g. M17 specification document, WPSD, the Remote Radio Unit, OpenRTX). This burden causes significant emotional stress, easily deteriorating the lone developer's psyche. The effect is further amplified by the pressure coming from the user base, with its never-ending requests and expectations. Ones they are happy to make, despite not supporting, or assisting with the project.

The normal response to the above is usually if we had the money to pay them all would be well, But our history tells us the opposite.

Funding helps, but the best work of hams gone by, was done by tinkerers and workplaces that recognised the value the ham's tinkering brought to the workplace, so it was supported, even encouraged, but has it lost that value?

Where is the innovation now?

And then finally, what are we doing? What is the purpose of the Ham community?

It seems to me, and I know I'm not alone in this, that many people seem to think that the ultimate expression of Amateur Radio is emergency communications. More energy, and money goes into AREC, than into NZART. I can see why. It makes money, and it has the ability to pay staff to cover many of the "administrative" or "Bureaucratic" roles, this gives it a presence and status that the local radio club cannot hope to match. But as valuable as the skills of a licensed amateur operator may be in an emergency, this is not the reason for the licensing of an amateur, The reason we have band allocations is for experimentation and it's for communication and connection.

Its why we exist, and it's what we need to be passing on.

So if you've enjoyed the hobby over years, how can you pass on the torch to the next generation? If your still new, who is mentoring you, and helping you to get established?

So as we wait for the summer months, and the opportunities that come with the warmer, drier weather, Its a good idea to ask yourself a few hard questions, think about what you want to get from the hobby, and what you're able to contribute to it. You don't have to be an expert to teach another, you only need to know a little more than they do. This means every one of has something to offer to another, its also means we are able to learn from each other if we take the time to listen to their stories.

Community is connections, Connection come from communication, and communication comes when we talk to each other.

Which seems to me to be reason for the hobby, and the reason for the club. Let me know if you agree or not. I would love to hear your thoughts.

73, for now, de ZL1NUX

Windows 10 — protecting your Operating System (OS) — a reminder from ZL1MR

Support for Windows 10 is being withdrawn in October 2025. That means that Win 10 will start to go the way of Windows XP and Windows 7 and slowly drop out of fashion.

Unfortunately unless you have a modern computer you will not have the necessary security chip implementing a system called Trusted Platform Module TPM 2.0. That means you will not be able to 'upgrade' to Windows 11 without going through some technical hoops and even then an 'upgrade' may not be possible. To find out more about the topic there are lots of useful options on the internet that explain the whole issue so I won't get in to details here.

However if you are like me and will have to completely upgrade from a perfectly useful Win 10 computer to get Windows 11, then what are we to do? Why should Microsoft be demanding we spend a fortune on new equipment and suffer from their oppressive idea of how the world should run? One key step that you should have taken years ago when you acquired your computer is to make a backup USB stick to allow you to boot up your computer and reinstall Windows 10 even if Microsoft remove the software from their website.

A useful site for information is at Dave's Garage on YouTube https://youtu.be/am0O6GpB7qI?si=JFHU6hVEfQqTma13. He tells you how to go to the Microsoft site and create yourself an up-to-date backup disc that may allow you to recover your data if your Windows 10 system crashes. It will also allow you to reinstall Windows on your Hard Disk Drive (HDD) but that is another story.

I already had a 16GB USB stick that I created years ago but I have now recreated it as the latest version of Windows 10 so feel somewhat protected from a rampant Microsoft deletion of older system OS software. Having said that there are still versions of Win 7, Win 8.1, Win 10, and Win 11 available to download here: https://www.microsoft.com/en-us/software-download/.

If you are hoping to keep your old Windows 10 machine going for a few years longer make sure you have a way of getting back in to the machine by creating a new Windows Rescue bootable USB stick. For this to work you also need to know how to jump to the USB stick as a boot option. Every computer is different. Some require you to hold down F10, or Del, or some other key as the machine starts so you can then choose which HDD, USB, or DVD to boot from.

Good luck.

Editors Note: The end of support means that Microsoft will no longer offer any security updates. Using your machine after this date, will expose you to ever increasing risk from Malware and people taking advantage of known exploits. In addition Windows 8 and 7 have already been removed from the Microsoft download site, but copies can be found from reliable sources, such as the internet archive.

The accuracy of weather forecasts — ZL1MR

I used to audit the Metservice in NZ and the Fijian equivalent for many years so I got to see how a weather forecast was put together.

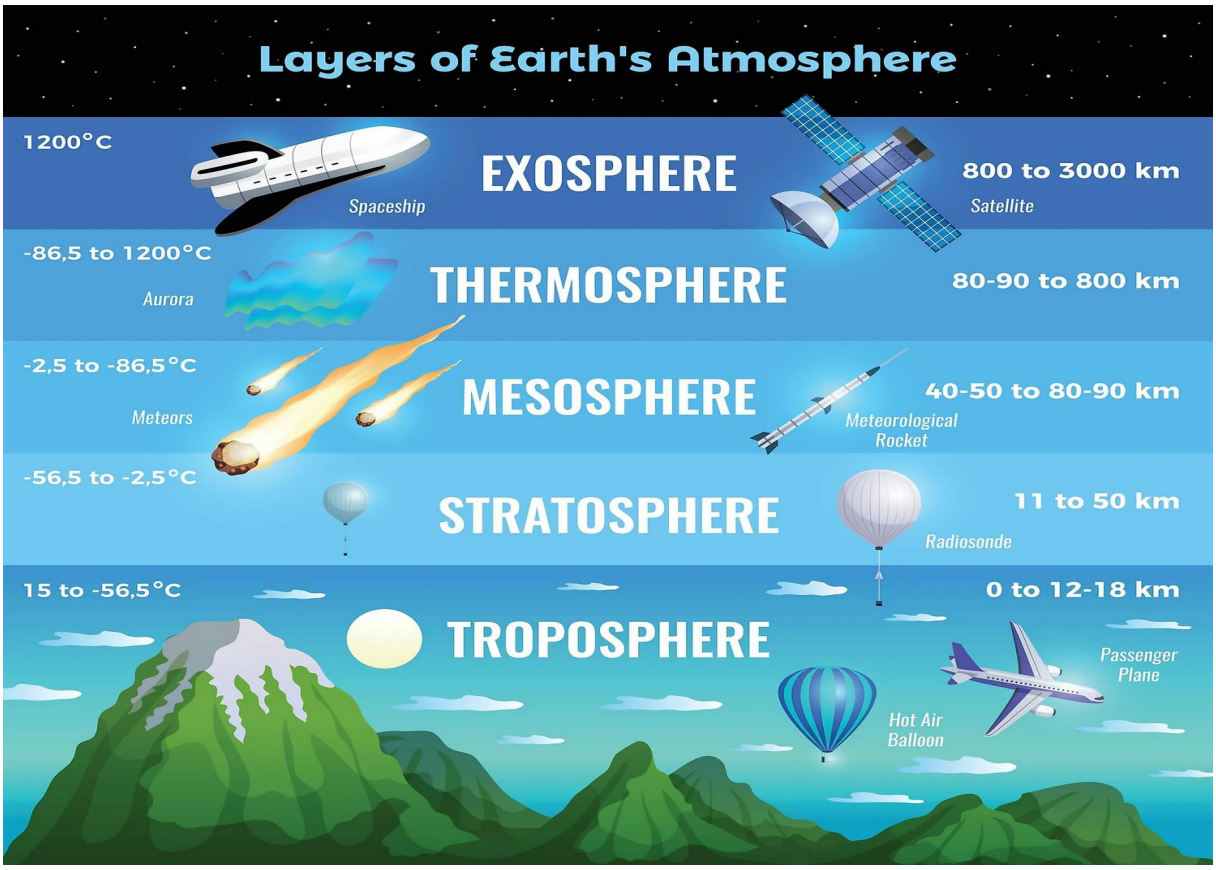
The accuracy of a weather forecast is based on how far out any predictions are made. From memory in NZ the 3-day out accuracy is over 98%. For the aviation sector the accuracy of the forecasts, especially the terminal area and airport forecasts, is constantly audited for accuracy as commercial air traffic can only function safely if the pilots have accurate information they can rely on.

Of course predicting what will happen in 5 or 10 days depends on the granularity of the mathematical model in use and quality of the data that is input. We are a bit stuffed at times in NZ as we are surrounded by vast oceans with few sea level data points to feed the model.

Over the oceans the weather satellites help as they give a variety of data points, including sea temperature which is a key driver of weather patterns. The key to weather is thermal energy, the oceans are giant thermal sinks or sources so we ignore them at our peril.

Commercial air traffic is also a great source of data as the flights constantly send back reports of wind and temperature at their flight altitude. Back in the day before automated reporting, this was a useful feature as the effort to report ensured the pilots remained awake on their long overwater excursions.

For the technically minded, weather forecasting can best be described as the analysis of thin film fluid dynamics over a rough surface. If you imagine a sphere of 1.2m diameter (about lower chest height) that would be a 1/10,000 scale model of the earth which is 12000km in diameter. Now imagine Mount Everest which is roughly 30,000ft or 10km tall rising above the surface of the sphere. On that scale Mt Everest would be a 1mm bump, barely visible.

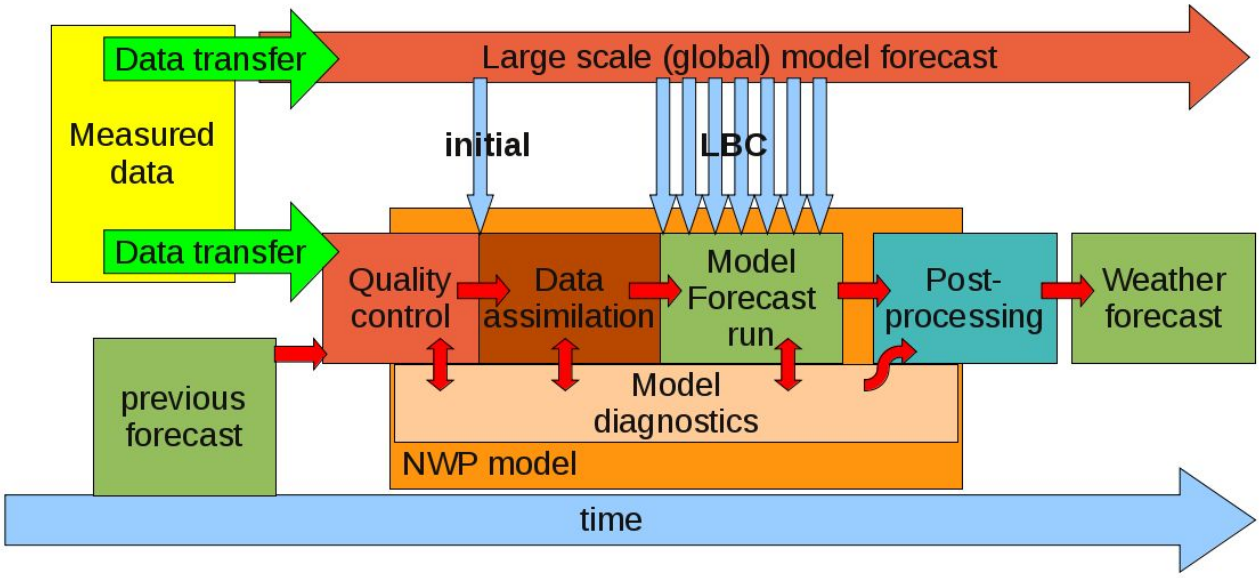


The atmosphere sits on top of that sphere and as we know it gets thinner the further up we go. Humans start to run out of oxygen at the 10 to 15,000 ft mark (1 to 5km altitude) as 50% of the atmosphere sits below 5.6km. That means that most of the moisture in the atmosphere is below the 20,000ft (6km) level and that is why when you fly in a jet you are generally above the clouds at 30 to 40,000ft, and when you are in a turboprop aircraft you often can find yourself bumping around in the tops of the clouds at the 15 to 25,000 ft altitude.

This lower layer of the atmosphere is called the troposphere, hence the term 'tropospheric ducting'. This is what happens when VHF signals get bounced around by varying temperature layers in the atmosphere and travel much longer distances. For example, the 147.325 MHz repeater in Masterton being heard quite clearly in Auckland!

So what about this thin film fluid dynamics? Forecasting is trying to predict where this very thin layer of atmospheric 'fluid', which we can now see is really only 0.6mm on our sphere, will end up in a few days-time as it slides over the bumpy surface of the sphere.

This requires a lot of good data to be collected and lots of mathematical analysis to occur. To that end, the world relies on a number of large Super Computer models in a process known as numerical weather prediction.



The various meteorological services download these global weather models and then fine tune them using their own finer-grained, local numerical models to generate the local forecast. The final step being the human factor where the local knowledge of the forecaster in Wellington is used to make the final analysis. Often times the intuition of the forecaster can make a real difference.

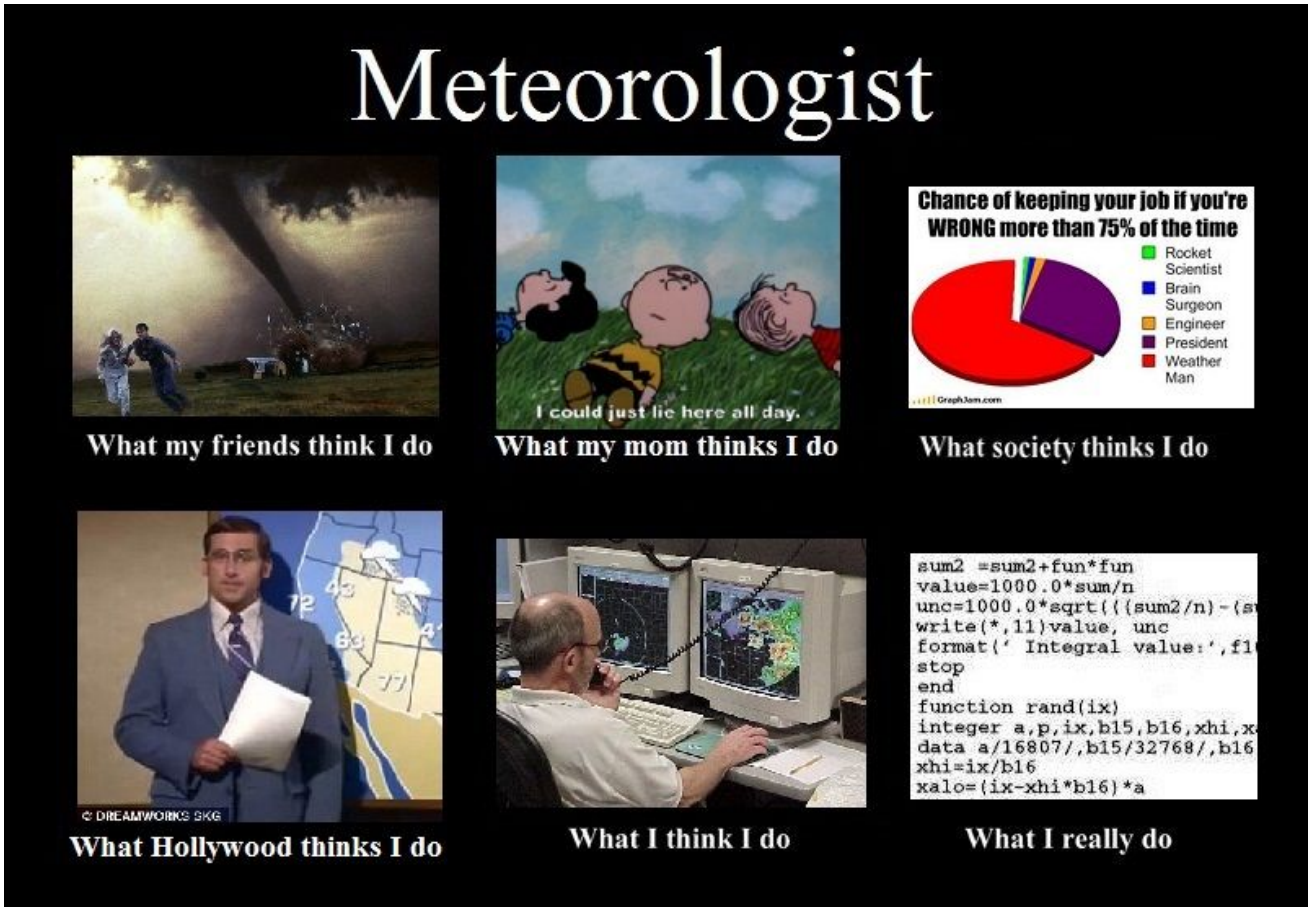
A good example of what can happen in New Zealand is when a southerly airstream strikes the country. A few degrees difference in direction of the air mass movement can mean either the West Coast gets a beating, or the weather moves up the eastern side of the South Island and the moisture and snow dumps on Otago through Canterbury.

We rely on the accuracy of the forecasting models, and finally the human factor, to put out the extreme weather warnings in advance so that stock can be moved to higher ground, and Visual Flight Rules (VFR) pilots can decide which side of the South Island to fly down on their way to Invercargill (not sure why they'd want to go there though!).

Occasionally the forecast may be incorrect, but usually it is simply a matter of timing. The rain and the wind still turn up as predicted, but it is either earlier or later than expected; or the weather system track changed slightly and missed us. For example the initial modelling of Cyclone Gabrielle indicated it could strike Auckland. In the end the system moved slightly further east, missed Auckland and dumped all the moisture on the area from East Cape down to Hawkes Bay.

Overall I think the Metservice does an excellent job within the limits of its resources in a small country of 5m people. Nothing in nature can be predicted with 100% accuracy but the 3-day forecast and closer is more accurate than you may think. The aviation forecasts which are measured in hours of validity are even more accurate.

Dave



Ham Dismayed Rig Hasn't Needed Repairs

LONG PINE, NEBRASKA – "I guess I didn't really know what I was getting myself into," said Trey Arend, blankly staring at his transceiver as it perfectly received an 80m net.

Arend bought his first Boat Anchor five years ago imagining long evenings aligning oscillators and testing tubes. "It was going to be a labour of love," he said, spinning the precision-calibrated VFO. He leans down and checks into the net, asking for a signal report. He is met with "59s" and "20 overs." He regularly hears "great audio, old man" blasting from the speaker. "Armchair copy!"

"I don't know what I am doing wrong," Arend says as he flicks off the well-grounded and regulated power supply. "I have tried everything. Bumping the desk hard enough to knock it out of alignment; occasional coffee spills. I am at a loss."

"I bought this oscilloscope, tube tester, and digital multimeter expecting to use it," he says. Arend wipes a layer of dust from the pristine boxes. "I guess I'll mark them up a bit and try to offload them at the next hamfest."

As of press time Arend was searching classifieds for a "worked-the-last-time-I-turned-it-on" Swan 350A.

by K5KAC, on the scene

HamHijinks.com

New Mode Helps Hams Look for Lovers

HORSESHOE LAKE, WISCONSIN — Local ham radio operator and self-avowed bachelor Giani Balboa says his latest creation will revolutionize the lonely hearts of the hobby.

The prize winning tailor (his garment making took 1st place at the 2004 Cumberland County Fair) has developed a new digital software format designed for the amorous ham.

“I call it FT-88s,” says Balboa. “It will whisper your call sign to hams of the opposite gender and you’ll be making contacts in no time!”

Designed to run on a home computer, the software comes in both “male” and “female” versions.

Transmitting on a 15 second cycle, the male FT-88s client includes several pre-set messages including:

- HOW YOU DOIN’?
- DO YOU COME HERE OFTEN?
- DO I KNOW YOU FROM SOMEWHERE?
- WHAT’S YOUR (CALL)SIGN?

Female version, preformatted messages include:

- NO COPY; I HAVE OTHER PLANS
- SORRY, I HAVE TO WORK DX LATE
- I’VE SEEN BIGGER SIGNALS

Balboa says the software will exchange the “kissing emoji” with the correct keystrokes.
He adds that third-party software will allow you to swipe left for logging to HRD log and swipe right for logging to AC Log.

Talking to reporters while exercising at his home gym/hamshack, he says QSOs will be digitally signed automatically and transferred to both NRRL’s Logbook of the Globe and www.hothamradiooperators.com.

By WB0RUR, on the scene ### HamHijinks.com

Heard Around the Scenes

US Hams facing threat in the UHF bands from commercial space operators.

The Federal Communications Commission (FCC) in the US has received a request from AST SpaceMobile to modify an existing license that would allow it to transmit within the amateur radio 70 cm band. Specifically, the company seeks the use of the 430-440 MHz spectrum to perform telemetry, tracking, and telecommand between ground stations and a constellation of 243 satellites in low-earth, non-geostationary orbit.

Based on activity within the AMSAT-DL forums, it's been suggested that AST SpaceMobile has interfered with the 70 cm amateur bands in the past. Communications Daily reported in 2023 that Germany required AST SpaceMobile to shut off operations when in radio range of the country. The government cited non-compliance with ITU regulations.

AST SpaceMobile is building a satellite constellation based cellular network that can utilize existing smart phones. The company is based in Midland, Texas, US and is publicly traded.

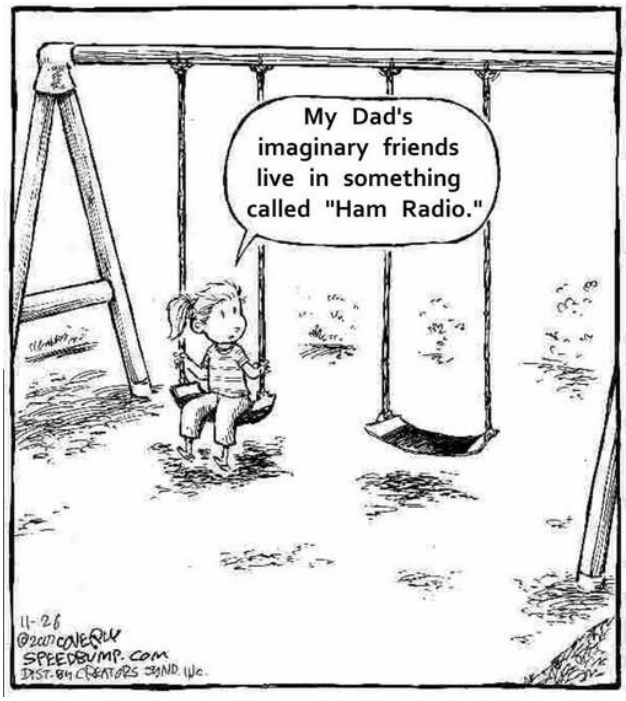
While this action make no impact on NZ operators, this should serve as a reminder that our allocated frequencies are not guaranteed to always be available, and we should remember that if we are not using them, we could one day be losing them.

So take advantage of a frequencies we have. There are plenty of others who will happily use them if we don't.

HAM RADIO International Amateur Radio Exhibition June 27-29

One of the largest amateur radio events in Europe takes place June 27-29 in Friedrichshafen, Germany. The event is HAM RADIO, an International amateur radio exhibition expecting to host more than 11,000 visitors, 400 exhibitors, and 100 lectures. The theme for 2025 is "REMOTE RADIO - CONNECTING THE WORLD"

> One of the advantages of remote operation is that it allows amateur radio operators who are unable to set up a station and, in particular, an antenna at their place of residence, to operate. In the event of a disaster, remote stations can be used as emergency radio stations, replacing destroyed but essential communication structures. In educational settings, they can help to teach amateur radio technology to students, with minimal technical effort required.



The next NZART broadcast is on the 29th June 2025 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]

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	146.900	Franklin Net (ZL1-SA)
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
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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)