The Official Newsletter of the

PAPAKURA RADIO CLUB INC.

April 2024

Back to real time

CONTENTS ...

This Month's Meeting:

This month's general meeting will be followed by a report on the Jock white field day

Hope to see you there.

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

March Dates:
Wednesday 3rd   **General Meeting – Jock White Field Day report**
Wednesday 10th   **Activity Night**
Wednesday 17th   **Committee Meeting**
Wednesday 24th   **Project Night**

DX CALENDAR FEBRUARY 2024

Expedition	Dates
TO5LA	01
T88PB	12–14
JW/LA8EKA	18–20
OJ0T	27–30
ZC4MK	01
VP6G	04–14
A52P A52CI	19–30
VQ5P	01
TX7W	16–28
V26K	01
A8OK	05–18
TX5XG	01
PZ5TW	01–05
TO1Q	01–07
6W7/ON4AVT	01–08
YJ0VK	01–09
VP2MDX	01–09
VK0AI	01–11
JG8NQJ/JD1	01–13
RI1AND	01–18
FR/F5PLC	01–28
H44MS	01–28
FK/LZ1GC FK/LZ5QZ	01–30
RI1ANE	01–30
VK0DS	01–30

Click any link above for details on the expedition

Featured DX - VP6G Pitcairn Island

Gerben, PG5M will be active as VP6G from Pitcairn Island,

IOTA OC - 044,

4 - 14 April 2024.

He will operate on 40 - 10m, CW, FT8 (MSHV software).

Pitcairn Island is hard to find in the waters of the vast Pacific Ocean. The area of the island is so small and the number of inhabitants is so small that, if it were not for historical facts related directly to Pitcairn, no one except geographers and enthusiastic travelers would even remember about the island.

So, one amazing event, which took place in the long past eighteenth century, made the island a corner of the planet, where many people want to go to imagine how and where everything happened. And what happened was the following...

One day, a transport ship sailed from the coast of England with a crew of sailors headed by a young, despotic captain with an unbridled temper. The captain's surname was Bligh, and the ship was to cross three oceans and reach the shores of the distant tropical island of Tahiti.

The English were interested in the seedlings of the overseas breadfruit tree. The nourishing fruits of the breadfruit, which after cooking tasted like potatoes, could easily feed several people for a whole year, therefore, these fruits were a very profitable product in the menu for English slaves in the West Indies.

For about a year the poor sailors had toiled among the salty ocean expanses, and the autocratic captain had been testing their patience, which one day was bound to "burst." Therefore, when the "Bounty" (and that was the name of the ship) docked at the shores of Tahiti and the poor members of the crew landed on the shore, Tahiti seemed to them like the Garden of Eden, thanks to the nature, friendly attitude of the islanders and simply hard ground under their feet.

First, they had to wait for the season when the seedlings were suitable for digging and transportation, then the sailors deliberately procrastinated, not wanting to leave the island. Thus five months passed. Well, five months in paradise is no joke! Therefore, it is not surprising that as soon as the Bounty, loaded with seedlings, departed from the shores of Tahiti, the sailors felt that their fairy tale, which had lasted so short a time, had been unfairly taken away from them.

The mere thought that Bligh would continue his abuse made the crew nervous. They had a long time to decide what to do about all this, and then they made the only decision they thought was right: the sea would do justice to the sailor. The rebellious part of the crew sent the captain and his supporters into the open waters of the Pacific Ocean, putting nineteen men in a seven-meter dinghy, even providing some food and fresh water for their enemies.

The rebels themselves, led by the crew's favorite, navigator Christian Flatcher, returned safely to the much-loved island of Tahiti. One part of the rebels remained to live there, while Flatcher and eight other men, after a year of living in Tahiti, being wiser, took with them 12 Tahitian women, as well as 6 Tahitians and went on their "Bounty" to the island of Pitcairn, recently discovered and still uninhabited.

In the end, the British who remained in Tahiti were very soon taken by their compatriots who had arrived on a punitive expedition ship and brutally massacred in their homeland. Bligh's lead, who oddly enough survived and returned to England, worked (of course, Bligh's courage and professionalism are to be respected, if not for his character). Well, and Fletcher and twenty-six friends in 1790 laid the beginning of civilization on the island of Pitcairn

During these long years, families of the descendants of the rebels were created and grew. Some were born, some died... In different years, the four and a half square kilometers of the island were inhabited by different numbers of people. In some years, the number of inhabitants reached even two hundred. But, unfortunately, today there are only about fifty people living on the island, and the population is decreasing every year.

Almost all the inhabitants have only four surnames - the surnames of their rebellious ancestors. They all speak in their native English, but if they communicate among themselves, the speech is full of Tahitian idioms, so that the islanders' speech is almost incomprehensible to an outside listener.

Pitcairn has its own capital (the smallest capital in the world) - a neat town Adamstown, named so in honor of one of the rebels and more like a very small village. The capital has a main square, as it should. Unlike Moscow, for example, where the square is named Red Square, in Adamstown everything is simple: no names. It's just a Square. And this Square is also covered with a roof.

The capital even has developed infrastructure: there is a school, which in the best of times had ten children of different ages, and now there is one girl. There is one court, one prison (empty), one church, one post office, a cafe, a bar, a museum, a medical center, a cemetery (all of them - one by one) and for something - a dozen public toilets (this strange fact cannot be explained).

There are no hotels, though. But guests are kindly welcomed by any family on the island, including the family of the capital's mayor (we think of him as the chairman of the village council) and the only local oligarch with a car. Also the only one on the island (unless you take into account the municipal concrete mixer).

The guests are greeted with wreaths of flowers and taken to their place of residence on a quad bike. So what if the trip takes only five minutes? So if you want to feel triumphant, welcome to Pitcairn!

UPCOMING CONTESTS

	Start Date-Time		Finish Date-Time	Bands	Contest Name	Mode	Exchange	Sponsor's Website
1	1500	1	1729	3.5,7	DARC Easter Contest	CW Ph	RS(T), DOK or serial	www.darc.de
1	1900	1	2300	144	144 MHz Spring Sprint	CW Ph Dig	4-char grid	sites.google.com/site/springvhfupsprints
4	0000	5	0300	7	Walk for the Bacon QRP Contest	CW	Max 13 WPM; RST, SPC, name, mbr or pwr	qrpcontest.com/pigwalk40
4	1700	4	2000	3.5	SARL 80m QSO Party	Ph	RS, serial, grid locator or QTH	www.sarl.org.za
4	1800	4	2200	28	NRAU 10m Activity Contest	CW Ph Dig	RS(T), 6-char grid	nrau.net/nrau-contests-in-general
6	1000	7	0400	14	PODXS 070 Club PSK 31 Flavors Contest	Dig	SPC, mbr or name	www.podxs070.com
6	1200	7	1200	3.5-28	EA RTTY Contest	Dig	RSQ, province or serial	concursos.ure.es
6	1200	7	1200	1.8-28	RSGB FT4 International Activity Day	FT4	Signal report	www.rsgbcc.org
6	1200	7	2359	No WARC	Georgia State Parks on the Air	CW Ph Dig	RS(T), park nbr or SPC	gaparks.org/forms-rules-register
6	1400	7	0200	1.8-28, 50,144	Louisiana QSO Party	CW Ph Dig	RS(T), LA parish or SPC	laqp.louisianacontestclub.org
6	1400	7	0200	1.8-28, 50,144	Mississippi QSO Party	CW Ph Dig	RS(T), MS parish or SPC	www.arrlmiss.org
6	1400	7	2000	1.8-28, VHF/UHF	Missouri QSO Party	CW Ph Dig	RS(T), MO county or SPC	www.w0ma.org/index.php
6	1400	7	2200	3.5-28	Florida State Parks on the Air	CW Ph Dig	Park nbr or SP	flspota.org/rules
6	1500	7	1500	1.8-28	SP DX Contest	CW Ph	RS(T), SP province or serial	spdxcontest.pzk.org.pl
7	1000	7	2100	3.5-14	WAB 3.5/7/14 MHz Data Modes	Dig	RS, serial, WAB square or country	wab.intermip.net/Contests.php
8	1400	8	2359	1.8-28,50	Solar Eclipse QSO Party	CW Ph Dig	RS(T), 4-char grid	hamsci.org/seqp-rules
8	1900	8	2030	3.5	RSGB 80m Club Championship, CW	CW	RST, serial	www.rsgbcc.org
9	1800	9	1929	3.5,7	DARC RTTY Sprint	Dig	RST, DOK or serial	www.darc.de
13	0000	13	0600	1.8-28	QRP ARCI Spring QSO Party	CW	RS, SPC, mbr or pwr	qrparci.org
13	0700	14	1300	1.8-28	JIDX CW Contest	CW	RST, JS prefecture or CQ zone	www.jidx.org/jidxrule-e.html
13	1200	14	1200	1.8-28	OK/OM DX Contest, SSB	Ph	RS, OK/MO county code or serial	okomdx.crk.cz
13	1200	14	1800	3.5-28	IG-RY World Wide RTTY Contest	Dig	RST, 4-dig yr first licensed	www.ig-ry.de
13	1400	14	0200	1.8-28, 50,144	New Mexico QSO Party	CW Ph Dig	Name, NM county or SPC	www.newmexicoqsoparty.org
13	1500	13	1900	3.5-14	Africa FT4 DX Contest	FT4	Signal report, 4-char grid	www.sarl.org.za
13	1800	14	2359	1.8-28,50	Georgia QSO Party	CW Ph	RST, GA county or SPC	gaqsoparty.com
13	2100	14	2059	1.8-28, sat	Yuri Gagarin International DX Contest	CW Ph	RST, ITU zone	gccontest.ru
16	1900	16	2300	222	222 MHz Spring Sprint	CW Ph Dig	4-char grid	sites.google.com/site/springvhfupsprints
17	1900	17	2030	3.5	RSGB 80m Club Championship, SSB	Ph	RS, serial	www.rsgbcc.org
18	0000	19	0300	14	Walk for the Bacon QRP Contest	CW	Max 13 WPM; RST, SPC, name, mbr or pwr	qrpcontest.com/pigwalk20
20	0500	20	0859	3.5,7	ES Open HF Championship	CW Ph	RS(T), serial	www.erau.ee
20	0600	21	0559	3.5-28	Worked All Provinces of China DX Contest	Ph	RS(T), BY province or serial	www.mulandxc.com
20	0700	21	0659	3.5-28	YU DX Contest	CW Ph	RS(T), YU/YT county or serial	www.yudx.yu1srs.org.rs
20	0900	21	2359	3.5-28	CQMM DX Contest	CW	RST, continent abbr, mbr code (if any)	www.cqmmdx.com/rules
20	1100	21	0059	1.8-28, VHF/UHF	Nebraska QSO Party	CW Ph Dig	NE county or SPC (FT8: grid)	nebraskaqsoparty.com
20	1400	21	2000	No WARC	Texas State Parks on the Air	CW Ph Dig	RST, park nbr or SPC	www.tspota.org
20	1600	21	0400	3.5-28	Michigan QSO Party	CW Ph	RST, MI county or SPC	miqp.org/index.php/rules
20	1700	21	1200	3.5-28	EA-QRP CW Contest	CW	RST, category, "M" if mbr	www.eaqrp.com
20	1800	21	1800	1.8-28, 50,144	Ontario QSO Party	CW Ph	RS(T), ON county or SPC	www.va3cco.com/oqp/rules.htm
20	1800	21	1800	1.8-28, 50,144	North Dakota QSO Party	CW Ph Dig	RS(T), ND county or SPC	www.ndarrlsection.com
21	0700	21	1900	3.5,7	International Vintage Contest HF	CW Ph	RS(T), 6-char grid	vintagecontest.webnode.it
21	1200	21	2200	1.8-28, 50,144	Quebec QSO Party	CW Ph	RS(T), QC zone or SPC	wp1.quebecqsoparty.org
21	2300	22	0100	1.8-28	Run for the Bacon QRP Contest	CW	RST, SPC, mbr or pwr	qrpcontest.com/pigrun
24	1900	24	2300	432	432 MHz Spring Sprint	CW Ph Dig	4-char grid	sites.google.com/site/springvhfupsprints
25	1900	25	2030	3.5	RSGB 80m Club Championship, Data	Dig	RST, serial	www.rsgbcc.org
27	0001	28	2359	28	10-10 Int'l Spring Contest, Digital	Dig	Name, mbr or "0," SPC	www.ten-ten.org
27	1200	28	1200	3.5-28	SP DX RTTY Contest	Dig	RST, SP 2-letter province or serial	www.pkrvg.org
27	1200	28	1200	3.5-28	UK/EI DX Contest, CW	CW	RST, UK/EI district code, serial	www.ukeicc.com
27	1600	28	2159	7,14,21,28	Florida QSO Party	CW Ph	RS(T), FL county or SPC	floridaqsoparty.org
28	1300	28	1859	3.5-28	UA1DZ Memorial Cup	CW Ph	RS(T), RDA district or 4-char grid	ua1dz.ru
28	1700	28	2059	3.5-28	BARTG Sprint 75	Dig	Serial	bartg.org.uk

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.

THE RETURN OF THE MORSE KEY?

It would seem from the blog reading I have been doing that CW seems to be on the rise within our ranks. I am not sure what it has to do with but Parks on the air, summits on the air and so on are getting popular these days and maybe folks are realizing you may get more bang for your buck with CW. If you have read my blog for any amount of time you know that I am "into" CW. Way back CW was a must if you wanted your ham licence to get onto HF. At that time you had to learn CW to get a licence and that was it. Once you hit the needed 12 wpm most put CW on the sidelines.

But that seems to be changing. CW works, and some would argue better than FT8 ... and you and have a real conversation in CW. In fact the number of CW QSO's on the bands seems to be always increasing.

So how to learn it?

NZART have this advice:

There are three words that help you to learn morse code: **PRACTISE, PRACTISE, PRACTISE**

It's far better to learn the Morse symbols by sound, and not sight! It's not a good idea to memorise a written table. Get an experienced Morse operator to send characters to you or listen to code on the air or from a computer and say each symbol after it's heard. You want to recognise the symbols by their sound.

The ideal method to learn Morse is by use of a computer. Morse code training programs are available — see the links on this page.

Learn numbers and letters at the same time–if learned later, they take a long while to become as familiar as the letters. Learn each symbol at a speed of about 12 – 14 words per minute (WPM), with long gaps between symbols. The gaps will close as you advance. When you have learned the symbols you can practice them at varying speeds.

Copying random, 5 character groups is good for reinforcing the characters in your mind and finding those that trip you up, but don't practice only with these. Move on to plain language once you have attained reasonable proficiency.

You can get some software called Teach Morse from the NZART website.

TeachMorse is a Windows application that works on Windows XP through to Windows 10 and provides a way to play practice text at different speeds. It uses the Howard Cunningham teaching character string which is similar to the 'Koch' method.
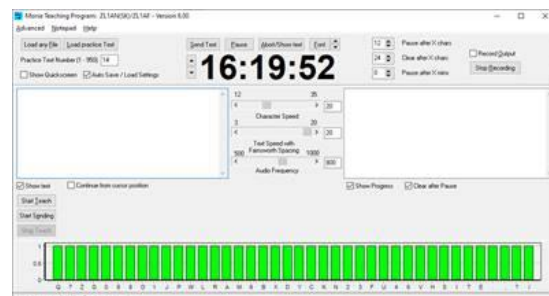
This software was originally written by Gary Bold ZL1AN (now Silent Key) who was a long time contributor to NZART's official Journal, Break-In and was known as 'The Morseman' by many in the Amateur Community. The software now maintained and enhanced by Andrew Mitchell ZL1AF.

You can download the .exe file for TeachMorse v8 here: TeachMorseV8.02.zip

If you have enough interest, then we may even look at classes at the clubrooms ... Any Takers?

RAMBLINGS FROM THE EDITORS DESK

What a month it was in March … At least for space enthusiast, SpaceX launched the 3rd test flight of starship, and while not every target was achieved (both vehicles were destroyed … eventually) the performance achievements were mind blowing, Its hard to think that in 1 year so much has already been achieved. I can't wait for test flight 4.

The sun likewise has been incredibly active, Solar flares and CME's might play havoc with the bands, and shut down HF communication, but the sheer power of the sun, as it reaches the peak of the cycle has been well and truly demonstrated.

The Parker solar probe even managed to confirm eddy currents inside solar CMEs showing that these masses of plasma behave very much like clouds so in earth's atmosphere. The details were caught in the Wide-field Imager for Parker Solar Probe (WISPR) camera, NASA loves its acronyms, as the spacecraft starts to head back in from earths orbit towards its next encounter with the suns corona at a distance of 6.16 million kilometres from the sun, and traveling at a speed of 692 thousand kilometres per hour. At that speed the ship would travel from Auckland to Invercargill in 6.2 seconds.

The numbers and size of the flares and CME's have some wondering if the peak of cycle 25 might already be occurring, while others think there is still more to come, Sadly our current understanding of solar cycles only allows us to determine where a peak (or a low) happens is to look at data after the event. Hopefully more data collection may helps us with future forecasts. But even so, the activity is much higher than anyone predicted, and this means that when we are not shut down by X-class flares … and we have seen several of those lately, the HF dayside propagation is very strong, allowing some very good contacts for those who want to work them, especially in the higher frequencies between 20 and 10 metres.

So a good time to playing in the HF bands.

This months newsletter takes a much more radio feel, Basically because some actual radio news has happened, so I hope you enjoy this months news and information.

Sunday the 7th of April will see us all, once more, setting our clock back 1 hour, this will officially see the end of those long summer nights (the ones that make it impossible to sleep at night, while forcing me to get up in the dark most mornings) and we instead settle into our winter routines.

So as we think about winter, we need to think about the changes of the year. This was driven home to me this weekend, when the battery in the motorhome started gassing because of a failed cell, tests soon revealed that the old battery which was over 7 years of age, and a calcium battery to boot would need a replacement. The best replacement was an AGM model, but because of the store closures over Easter break, the cost of the replacement burnt a serious hole in my wallet.

7 Apr
Back 1 hour

Sadly as we had promised to help my son with house renovation work, we needed to get the motorhome to Hamilton, so shopping around was not an option. So with a day lost, we finally headed to Hamilton and spent a couple of nights in the motorhome, while working

all day on his house. The results were one happy son (and an even happier daughter in law) and several projects on his needs list crossed off. So a good outcome at the end of the day.

But now it's time to be a bit more selfish and start thing about getting my place ready for winter. For me, there will be grape vine pruning, tying and trimming the passionfruit and berry vines, and cutting back growth around the house. Gutters will need cleaning and even the vehicles need a new service routine. (Yes, including topping up the battery charge every 6-8 weeks.)

It also means that we are heading into the time when radio comes into its own, Assuming our shack is all set up and ready to work, then its time to check your antennas, and makes sure all the joints are watertight, and antennas are in place before the winter rains make getting them up on your roof too dangerous.

Over the winter months, the ham shack becomes a retreat, a sanctuary, and a way to connect with others, spending some time on it now, means we enjoy a trouble free winter of operation.

But are we already connected?

If we are to have someone to connect to, we need three things.

1. A frequency we are listening on.
2. A time to be listening.
3. Others who have the same frequency and time, so we can connect.

In short, Ham radio works best when we have connections and networks.

For various reasons, we may not get in contact with every group. But if we know about the groups, we can at least try to find a way to connect. This means we need to know what is going on, who uses each channel (or repeater) and when. And this is one function of your local club.

Winter is not the best time to come out to meetings, and there will always be other interests and activities competing for the same time, but the monthly meeting at the club is the time to make connections. To learn about what is on when, and how to join it, to be part of something bigger.

Another useful connection is via the clubs Sunday morning nets, While theses are hardly critical, the act of firing up the radio every weekend for an hour, and connecting with a few other hams, is our chance to prove that our gear works, and that we have connections with others, even if they are fleeting. And of course it allows us to find out about other activities.

So we start to think about winter, and the colder months ahead, lets also think about our connectivity with each other and the readiness of our gear should be find we need it later.

Come to a meeting, make some connections, and get your setup working, then join a few nets with like minded individuals, and stay connected.

All members, especially our newer members will shorty, if not already be contacted to see how we as a club can better serve your needs, we are keen to know how to help, and if you're willing to answer a few survey questions, and maybe add some comment, it will help us to serve you better, so please when you see the survey invitation, please take the time to give us some answers, and help us set a plan for the rest of the year.

We have some great speakers coming up this year, and you won't want to miss some of them. (*Spoiler alert _ you'll be amazed at what is happening, and what you can do with an SDR soon*) so please make the connections. You worked hard for your ticket, now make sure its working for you.

And remember, social media may not be the best way to live a happy and contented life, but before they existed ham radio was connecting the world in meaningful ways.

So lets be proud of the original social network we are all part of, and blow the dust out of the microphone and loosen the PTT button, and make a connection.

I'll be listening when I'm not working ... and I'm not always working.

Hope to catch up with you all again soon.


73 for now de ZL1NUX

An elderly ham driver was going down the motorway when suddenly his 2 meter rig crackled his call…Answering…he heard a fellow ham's urgent warning…..

"Hey Jim, just heard on the news that there's a car going down the southern carpark the wrong way, please be careful"!!

Jim replied,"Well I'll tell you what mate, it's not just one…….there's hundreds of them'!!!!!!!!!
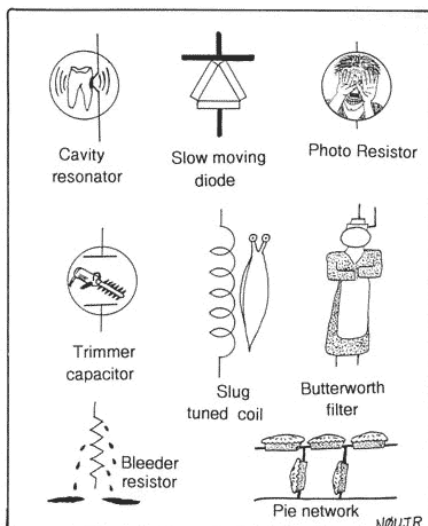
Little known standard electronic symbols.
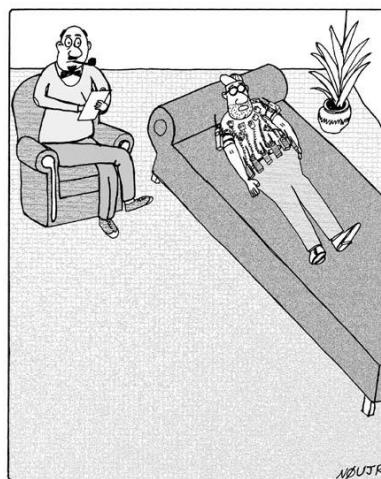
"Well it all started when I was a child...I felt that I had difficulty communicating with people..."

"Sorry about the noise, I tripped...anyway, the name here is Roy...I am located near downtown Chicago, and I've been a ham now for 20 years..."

HAM TV RETURNS TO THE INTERNATIONAL SPACE STATION.

SpaceX CRS-30 recently returned the HamTV system back to the International Space Station after the system was sent back to earth for repairs in 2019. The Digital Amateur Television (DATV) equipment powering HamTV is typically used in conjunction with school contacts to send video and audio of the contact events to viewers on earth.

HamTV was originally operational in 2013 but failed 6 years later in 2019. With the equipment back on board the ISS, AMSAT expects the equipment to be operating in the coming weeks.

The British Amateur Television Club (BATV) has extensive documentation related to HamTV, including how to receive the DVB-S protocol transmitting from the ISS.

Ham Video RF Transmission

- 2395 MHz (main operating frequency)
- 2369 MHz
- 2422 MHz
- 2437 MHz

The HAMTV transmitter produces 10 watts RF, however this is then fed through a series of interconnecting cables and bandpass filter before passing through the ISS Columbus module external wall.

Estimated power at the antenna is approx. 2 watts.

DVB-S modulation

- Symbol rates: 1.3 Ms/s or 2.0 Ms/s (2.0 Ms/s is normally used)
- FEC : ½
- Rolloff: 35%

TS format

- MPEG-2 Video, approx. 1 Mbits/s, PID 256
- MP2 Audio, approx 360kb/s, PID 257
- Null padding, PID 8191
- NTSC
- SIF resolution: 352×240 or D1:720×480, 29.97fps
- Note that non-square pixels are used, the 4:3 picture has to be stretched to 16:9 for correct visual aspect ratio.

MPEG-TS Recordings of previous transmissions can be found at live.ariss.org/media/HAMTV Recordings/

ISS HAMTV antenna

The HamTV transmission runs relatively low power on 2395MHz to a simple patch antenna on the ISS.

IS THIS THE MOST HACKABLE HAM RADIO YET?

For over a decade, Baofeng has been the name in Chinese handhelds. In 2012 Baofeng made waves with its UV-5R radio, upending the sleepy handheld-transceiver market. Prior to the 5R, the price tag of the cheapest VHF/UHF handheld was hundreds of dollars. The 5R sold for less than $100.00. Hams groused about the 5R's so-so technical performance—and then bought a couple anyway, so they'd always have a radio in their car or workplace.

Now it's Quansheng that's making a splash. The UV-K5, released last year, might be the most hackable handheld ever, with a small army of dedicated hams adding a raft of software-based improvements and new features.

Like Baofeng's 5R, Quansheng's K5 as a radio transceiver is ok in performance. The key technical distinction between the 5R and K5 is a minor design choice. With Baofeng's 5R, the firmware resides in read-only memory. But Quansheng stores the K5's firmware in flash memory and made it possible to rewrite that memory with the same USB programming cable used to assign frequencies to preset channels.

This feature has opened the door for improvements to the K5 that are well beyond what Quansheng offers out of the box. Hopefully, this design will inspire other radio makers to offer more support for modders, in turn bringing more innovation to the VHF and UHF radio bands.
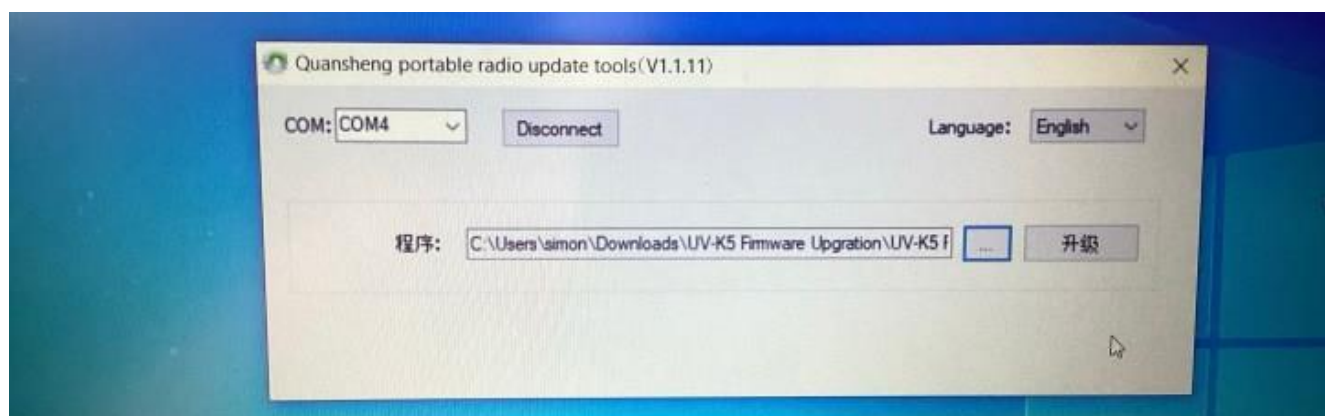
Quansheng probably thought of its design purely in terms of fixing software bugs or adjusting for regulatory changes—it offers a free install tool for uploading official firmware releases to the radio. But the prospect of an updatable radio dangled an irresistible temptation for folks to start reverse engineering the firmware and hardware so they could try writing their own code. Modifications to date have generally taken the form of patches to the official firmware, rather than wholesale rewrites. With the official firmware taking up most of the radio's 64 kilobytes of flash memory, such mods have to fit into less than 3 KB. And the CPU is not brimming with compute power—it's a 48-megahertz, 32-bit ARM-based processor with 8 KB of RAM. Nonetheless, the results to date Have been very impressive

For example, one mod installs a sophisticated graphical spectrum analyser: You can adjust the bandwidth, set a threshold for tuning into detected peaks automatically, and specify frequencies to ignore, among other things. Another mod allows you to exchange text messages between K5s. Other mods improve the K5's ability to receive AM signals, meaning you can, say, listen in on aviation bands more clearly. And there are plenty of fun little mods that do things like change up the system fonts or replace the start-up message with a line-art image of your choice.

While all this is very impressive, a new hack includes modifying the radio for full HF reception, and then fitting a PCB containing a SI7432 chip with improved DSP filtering.

Paul OM0ET has shown a demo on his YouTube channel, and it's inspired me.

So I guess I need to look at some AliExpress imports and have a play with some hardware/software hacking

Should be fun.

I'll update you once the radios and parts arrive.

But if anyone has already performed the mod, How did it go?

M17 ANNOUNCES NEW OPEN-SOURCE HARDWARE FOR AMATEUR RADIO ENTHUSIASTS AND ENHANCEMENTS TO CURRENT OFFERINGS

This article is a joint press release from ARDC and M17 Project

March 29, 2024 — Funded by a grant from Amateur Radio Digital Communications (ARDC), M17 is excited to announce enhancements to their current hardware solutions for amateur radio operators as well as a new hardware offering:

Module17–an M17 modem that converts a 9600 baud capable radio into an M17 transceiver;

OpenHT–a cutting-edge QRP dual-band handheld transceiver (HT) that utilizes SDR technology; and

[NEW] Remote Radio Unit (RRU)–a comprehensive, UHF FM/M17 'repeater in a box', optimally designed for close antenna placement, enhancing signal strength and reliability.

An early M17 handheld project.
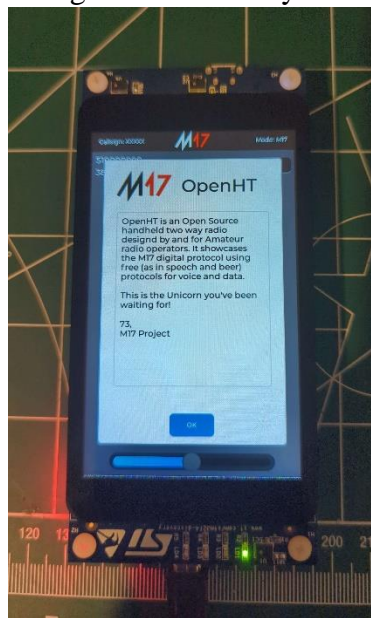
Module17 is undergoing significant enhancements, evolving from revision 0.1e to 1.0. Improvements to Module17 will focus on design and ergonomics, featuring an extruded aluminum case for aesthetic appeal. The anticipated release of revision 1.0 is forthcoming. In the interim, a preview revision of 0.99 is available, which addresses previous non-critical hardware bugs.

OpenHT is one of the pioneering open-source SDR HTs available, potentially the first of its kind. Its prototype, released last year, supports 70cm and 13cm bands, offering versatile transmission capabilities such as FM (including M17), AM, SSB, BPSK/QPSK, and higher order modulations, such as 16QAM. M17's ongoing development efforts include VHSIC Hardware Description Language (VHDL) code for the programmable logic components of the radio, further enhancing its functionality.

Work is also underway for the development of a RRU transceiver, aiming to provide a comprehensive FM/M17 repeater for remote sites or masts. The RRU includes features such as an N connector for direct antenna connection, eliminating the need for a long coax, and a multimode optical fiber duplex pair, allowing for improved RF performance. The RRU supports SDR IQ transceivers, allowing for additional modes, and can also output RF power exceeding 50W (CW). The current working prototype, revision B, facilitates linking to M17 reflectors and integrates Raspberry Pi interface software for M17 reflector linking.

All of the aforementioned hardware is developed entirely from open-source designs, adhering to TAPR, CC BY-NC-SA 4.0 and/or GNU GPLv2/v3 licenses, exemplifying M17's commitment to innovation and community collaboration.

"I believe the work done by our Project's team and contributors will free the amateur radio community from the use of proprietary digital voice modes, also allowing for easier data transfer," says M17 Founder and Lead Developer Wojciech Kaczmarski (SP5WWP). "We have achieved a lot already, yet still there's plenty of work ahead of us. I encourage everyone to join the effort, as the Project won't succeed without community's help."

To learn more about M17, visit https://m17project.org/.

End press release.

So M-17 is really giving us 3 news Items, and one worth considering.

Thanks to the ARDC grant, we may see some some new toys available soon.

When M17 started you could make your own Module 17 - first you had your own printed circuit board made, then you sourced the components... etc. Obviously that was a non-starter for all but the most technically ambitious folks, and didn't do much to encourage M17 activity. Kudos that Module 17 is now going to be a product, not just a project. I think this will be good news, even if most will be mass made in China

The OpenHT is an impressive, ambitious project, but reading about it, OpenHT feels like a development whose time has come. OpenHT is similar in scope to an earlier project - Whitebox / Katena that was begun by Bruce Perens K6BP and Chris Testa KD2BMH in 2016. Unfortunately, at that time, the technology wasn't quite up to the scope of the project. Eight years later, the radio components, the processors, and the software framework are now widely available.

Lets hope this open source SDR lives up to expectations.

The Remote Radio Unit (RRU) (Repeater) is an excellent example of a radio system designed by Amateur Radio enthusiasts to meet the unique needs and requirements of Amateur Radio, showcasing innovative thinking. There are just so many things to admire about the scope of the RRU - using fibre optic communications between the unit and its base, that it's essentially a Software Designed Transceiver, reasonable power output for UHF operations, etc. It's interesting that the RRU debuted not long after the Icom IC-905 which also mounts "most of the electronics" remotely on the tower near the antenna. The RRU is possibly more technically sophisticated than the IC-905 in some ways, such as using of fibre optic communications, and being able to add modes and features through software changes determined by the user.

After reading the M17 release, and also thinking about the hackable UV-K5 radio, my most burning question is whether, solely with software, could the UV-K5 run the M17 protocol for digital voice / text messaging? I haven't seen an answer yet, but it appears that Wojciech Kaczmarski SP5WWP (primary developer of M17) is "on it".

Let's watch and see.

IN THE SKIES OF UKRAINE A 1920S TECHNOLOGY IS BACK IN FASHION.

Before Radar in the 1920's and 30s, before RADAR became the way most militaries watched the skies, there were acoustic monitoring stations. And no matter how you feel, or what you believe about the war in Europe (Both sides are now calling it a war) the big technology winner has not be missiles or fighters, or even hypersonic, But rather its been drones, Both kamikaze drones and targeting drones have rules the skies, just as torpedo drones have been effective at sea, these low cost, low tech devices have done more damage to both sides, than any other technology.

The problem is these small devices are hard to detect on radar, and even harder to identify even is they are spotted.

Thus the acoustic sensor network. The project, which Ukrainian sources have said is too secretive to discuss in detail, was disclosed by the US Air Force's most senior officer in Europe at a recent event.

General James Hecker, head of US Air Forces in Europe, described the most simplistic acoustic sensors as a network of thousands of mobile phones attached to 6ft poles. Kyiv's national air defence command and control network, known as "Virazh", relies on at least 40 separate kinds of sensor networks to detect, track and identify airborne threats. The acoustic sensors gather uncharacteristic sounds from the environment before artificial intelligence is used to establish whether anomalies are incoming kamikaze drones or missiles.

The most basic sensor, manufactured by a non-governmental organisation called "Skyfortress", is deployed in areas close to the front lines in Ukraine. It is built from an android smartphone housed in a box with other commercially available technologies. The mobile phones are constantly switched on and recording to detect incoming aerial targets, and they use local mobile phone networks to relay the information back to a centralised system.

The scheme is raising money for as many as 12,500 sensors, built by Ukrainian firm Ajax Systems, to position in the regions of Sumy, Odesa, Mykolaiv and Kherson.

A second system used by Ukraine's armed forces is known as Zvook, which uses similar acoustic technologies to provide a better picture of the skies above the country. The machine learning firm's sensors use micro-computers, instead of mobile phones, to detect drones at a range of three miles away, cruise missiles at four miles and ballistic missiles at six miles. Artificial intelligence helps the system distinguish between the sound of a mooing cow and incoming drones.

It estimates it could cover the entire country with 8,000 of its devices, which cost about UK£400 to manufacture.

Systems have been fitted to critical infrastructure, such as telephone masts and electricity substations, since the winter of 2022. When Ukraine was recently attacked using as many as 84 kamikaze drones, acoustic systems like these were used to provide ground crews with information on their trajectories.

General Hecker said mobile firing groups were able to intercept at least 80 of the unmanned aerial vehicles with the information.

He said Nato countries are now also looking into whether the equipment could be used to bolster their own air defence networks.

During the Second World War, acoustic systems were built on Britain's Kent coast.
The giant concrete dome structures, known as mirrors, were used to amplify the sound of incoming enemy aircraft. Observers could compare the reflected sounds to calculate height, speed and flight path.

Sadly History may not speak well of these devices, in the late 1960s the US Air Force deployed an array of heat and movement sensors in the jungles of Vietnam to listen in on the Vietcong. However, the Vietnamese soon discovered the whereabouts of the listening devices rendering them ineffective.
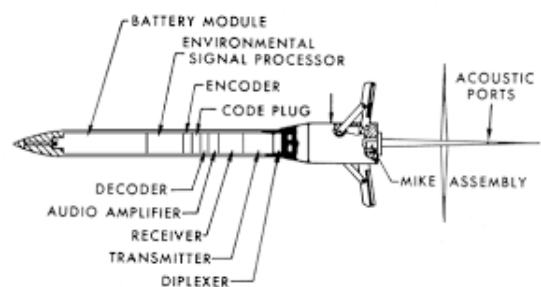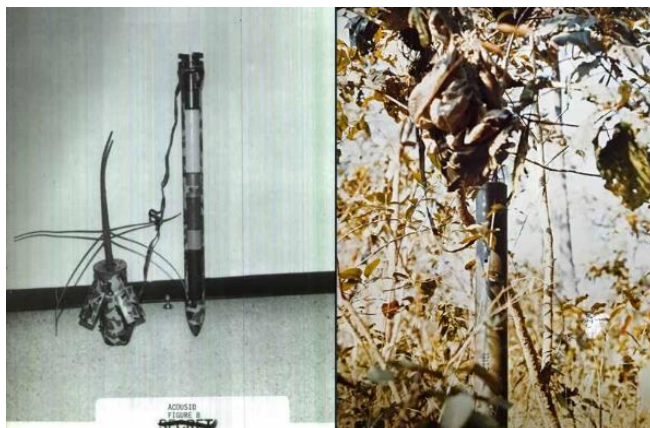
But the tech is still interesting, and funny how it all comes around again.

The simple old things, still work a century later.

HEARD AROUND THE SCENES

THE NEXT NZART BROADCAST IS ON THE 28TH OF APRIL 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

PLUTO TV WILL RALLY TO MAKE PLUTO A PLANET AGAIN ON APRIL 1 (IT'S NO JOKE)

Pluto TV will celebrate to 10 years of free TV streaming by going back to its Pluto planet roots.

Pluto may have lost its status as a full-fledged planet in 2006, but that doesn't mean it's a joke of a world this April Fools' Day and the folks behind Pluto TV want to make that clear.

On April 1, the free Pluto TV streaming service will host a "sit-in" to revisit the Pluto planethood debate while also celebrating the 10th anniversary of the live TV streaming service. The event, dubbed "Pluto TV's Rally for Pluto! Make Pluto A Planet!," runs from 11:30 a.m. to 1 p.m. Pacific Time at the University of California Los Angeles' Bruin Plaza.

And if you can't make it in person, you can sign a Change.org petition for Pluto's planethood to make your voice heard.

"Join the citizens of Pluto for a rally to spark the conversation around Pluto's planetary status," Pluto TV said in a statement. "It's been 18 years since Pluto was demoted and we think it's time for Pluto to have a vote in its own destiny. "

Pluto TV has enlisted Pluto pioneer Alan Stern, principal investigator for NASA's New Horizons mission (which made the first Pluto flyby in 2015) to speak on Pluto's behalf. Space.com has confirmed with Stern that's it's no April Fools prank. He actually will speak at the event.

A video message from astrophysicist Neil DeGrasse Tyson, director of the Hayden Planetarium at the American Museum of Natural History in New York City, who supported Pluto's demotion, is also expected to be played at the rally during the debate. Tyson recently launched his StarTalk TV streaming channel on Pluto TV.

SOME NETS – FOR WHEN YOU ARE LOOKING FOR SOME COMPANY

Day	Time (Local)	Freq (MHz)	Group
Sunday	08:00	3.750	Southern Net
	08:30	**146.625**	**Br 65 – Papakura Net**
	09:00	3.700	Br 10 - Franklin
	09:15	3.755	Br 65. Papakura.
	09:30	146.900	Br 10 – Franklin ZL1SA
	19:00	146.700	YL Net
	19:45	145.575	Thames radio club ZL1DF
	20:00	3.700	Br 42. Titahi Bay
	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	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
	21:00	1.850	160m Net _ Ron ZL4JMF
	19:30	3.690	QRP ZL2BH
	20:00	3.581	CW improvers Net
Wednesday	11:30	3.850/7.125	SPAM Net
	19:30	146.700	ZL1AB Net
	20:00	3.660	Geek Net
	20:00	3.645	Br 02. Auckland
	20:00	3.745	Br 84. Bay of Islands
	20:30	146.525	W.R.S.C
Thursday	09:00	7.096	Ex Post Office Techs
	19:30	3.690	QRP ZL2BH
	20:00	3.540	CW Practice Net
	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
	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
	08:30/20:00	3.730	ZL3RP
	20:30	3.725	ZL2HN / ZL4RF
	21:00	3.677	Counties Net ZL2MA
	21.00	3.535	New Zealand Net (CW)

This is designed to be a living list, Please send me any updates whenever you are able:

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Treasurer	ZL1MR	David Wilkins	021 185 7903
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	ZL1IRC	Ian Clifford	021 082 48400
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Newsletter Editor	ZL1NUX	Gavin Denby	021 459 192
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.
Project Evenings are on the 4th Wednesday of each month.
Committee Meetings are held on the 3rd Wednesday of each month at 7.30 pm unless advised.
Activity Nights are held on the 2nd Wednesday starting at 7.30 pm.
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) after January 2011. 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 8.30 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)