

The Official Newsletter of the

PAPAKURA RADIO CLUB INC.





Spring has Sprung ... The Grass has rise



Papakura Radio Club Inc.

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This Month's Meeting:

Wednesday 6th of August will be the next meeting for 2023. Following general business, Ian ZL1AOX will share on the history of KiwiSat the New Zealand Made Amatuer Radio repeater.

There will be a cuppa and biscuit afterwards so we can socialise, radios optional.

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

Dates:	Wednesday 6 th September	General Meeting + SGM
	Wednesday 13th September	Project Night
	Wednesday 20 th September	Committee Meeting
	Wednesday 27 th September	Activity Night – See Club activity

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CLUB ACTIVITY:

Our Activity and Project nights now operate on a new timetable, with the Project nights now being on the 2^{nd} week, and the activity nights (training and practice with systems and services) being on the 4^{th} week

We will be introducing two new projects, One is a 12 volt power distribution system, based on Anderson Powerpole Connectors, and the other a digital interface Project for Yeasu Radios. These will require some soldering, but don't worry If you have never soldered before, we will have some experienced people on hand to help teach you. ... And the soldering Irons too.

Later we may look at other topics, and will advertises these on the Sunday morning nets, as well as this newsletter. So keep listening and reading. Also the end of the month will start another Ham Cram, See the Heard around the scenes pages for more information



DX CALENDAR SEPTEMBER 2023

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Featured DX

VK9LAA LORD HOWE ISLAND

VK9LAA Team will be active from Lord Howe Island, IOTA OC - 004, 20 September - 4 October 2023.

They will operate on 160 - 6m Bands, including activity in CQ WW DX RTTY Contest.

Deservedly called the last corner of Paradise on Earth, Lord Howe Island is located 600 kilometres east of mainland Australia. A UNESCO World Heritage Site, it is characterised by striking contrasts and unspoilt nature. Local landscapes organically combine majestic volcanic peaks, lush forests, serene lagoons, coral reefs, rich fauna and flora.



And FO/F6BCW HUAHINE ISLAND FRENCH POLYNESIA

Didier, F6BCW will be active from Huahine Island, IOTA OC - 067, French Polynesia, May -October 2023. He will operate on 160 - 6m, CW, SSB. QSL via F6BCW, LOTW. Address for direct QSL: Didier CADOT, 180 rue du Moulin de la coudre - 71440, TRONCHY, FRANCE. DXCC Country - French Polynesia.



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UPCOMING CONTESTS

Dat	Start - e-Time	Fini Dat	sh e-Time	Bands	Contest Name	Mode	Exchange	Sponsor's Website
2	0000	3	2359	1.8-28	All Asian DX Contest, Phone	Ph	RS, 2-digit age	www.jarl.org
2	0600	2	0800	7,14	Wake-Up! QRP Sprint	CW	RST, serial, suffix of previous QSO	qrp.ru
2	0800	3	1000	1.8-28	SARL Field Day Contest	CW Ph Dig	RS(T), # of rigs, category, province or "DX"	www.sarl.org.za
2	1300	3	0400	All, except WARC	Colorado QSO Party	CW Ph Dig	Name, CO county or SPC	ppraa.org
2	1300	3	1259	1.8-28	IARU Region 1 Field Day, SSB	Ph	RST, serial	www.darc.de
2	1300	3	1300	3.5-28	RSGB SSB Field Day	Ph	RS, serial	www.rsgbcc.org
2	1600	2	1900	3.5	AGCW Straight Key Party	CW	RST, serial, class, name, age	www.agcw.de
2	2000	3	2000	3.5	PODXS 070 Club Jay Hudak Memorial 80m Sprint	Dig	RST, SPC	www.podxs070.com
2	2000	2	2359	1.8-28	CWOps CW Open	CW	Serial, name	cwops.org
3	1000	3	1400	144	WAB 144 MHz QRO Phone	Ph	RS, serial, WAB square or country	wab.intermip.net
3	1800	4	0300	All, except WARC	Tennessee QSO Party	CW Ph Dig	RS(T), TN county or SPC	tnqp.org/rules
4	1900	4	2030	3.5	RSGB 80m Autumn Series, SSB	Ph	RS, serial	www.rsgbcc.org
4	2300	5	0300	1.8-28,50	MI QRP Labor Day CW Sprint	CW	RST, SPC, mbr or pwr	www.migrp.net/contest
5	0100	5	0300	3.5-28	ARS Spartan Sprint	CW	RST, SPC, pwr	arsqrp.blogspot.com
7	1700	7	2100	28	NRAU 10m Activity Contest	CW Ph Dig	RS(T), 6-char grid	nrau.net
9	0000	9	2359	1.8-28,VHF	FOC QSO Party	CW	RST, name, mbr or none	g4foc.org/qsoparty
9	0000	10	2359	3.5-28	WAE DX Contest, SSB	Ph	RS, serial	www.darc.de
9	1400	9	2200	3.5-28	Ohio State Parks on the Air	Ph	OH park abbreviation or SPC	ospota.org
9	1500	10	0300	3.5-28	Alabama QSO Party	CW Ph	RS(T), AL county or SPC	alabamacontestgroup.org/aqp
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
13	1900	13	2030	3.5	RSGB 80m Autumn Series, CW	CW	RST, serial	www.rsgbcc.org
14	1800	14	1959	3.5	BCC QSO Party	CW Ph Dig	RS(T), T-shirt size	www.bavarian-contest-club.de
15	1600	15	1700	3.5	AGB NEMIGA Contest	CW Ph Dig	RST, serial, mbr or none	ev5agb.com
16	1200	17	1200	3.5-28	Scandinavian Activity Contest, CW	CW	RST, serial	www.sactest.net
16	1400	17	0200	All, except WARC & 60	Iowa QSO Party	CW Ph Dig	RS(T), IA county or SPC	www.w0yl.com/IAQP
16	1400	17	2000	All, except WARC	Texas QSO Party	CW Ph Dig	RS(T), TX county or SPC	www.txqp.net
16	1600	16	2300	All, except WARC	Wisconsin Parks on the Air	CW Ph Dig	WI park abbreviation or SPC	wipota.com
16	1600	17	0359	3.5-28	New Jersey QSO Party	CW Ph Dig	RS(T), NJ county or SPC	www.k2td-bcrc.org
16	1600	17	2200	3.5-28	New Hampshire QSO Party	CW Ph Dig	RS(T), NH county or SPC	www.w1wqm.org
16	1600	17	2359	1.8-28,50	Washington State Salmon Run	CW Ph	RS(T), WA county or SPC	salmonrun.wwdxc.org
17	1700	17	2059	3.5-28	BARTG Sprint PSK63 Contest	PSK63	Serial	bartg.org.uk
18	1900	18	2030	3.5-14	RSGB FT4 Contest	FT4	Signal report	www.rsgbcc.org
21	0030	21	0230	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	Max 25 WPM; RST, mbr or "NM"	pi4ntc.nl
23	0000	24	2359	3.5-28	CQ Worldwide DX Contest, RTTY	Dig	RST, CQ zone, (US/VE state/prov)	www.cqwwrtty.com
23	1200	24	1200	1.8-28	Maine QSO Party	CW Ph	RS(T), ME county or SPC	www.ws1sm.com/MEQP.html
23	1400	23	2200	3.5-28	Masonic Lodges on the Air	Ph	Lodge name, lodge no., jurisdiction or SPC	cqmorelight.com/rules
24	0700	24	1000	50	UBA ON Contest, 6m	CW Ph	RS(T), serial, ON (for ON)	www.uba.be
28	1900	28	2030	3.5	RSGB 80m Autumn Series, Data	Dig	RST, serial	www.rsgbcc.org
30	1200	1	1200	3.5-28	UK/EI DX Contest, SSB	Ph	RS, serial, district code (if UK/EI)	www.ukeicc.com
30	2200	1	2200	1.8-14	AWA Amplitude Modulation QSO Party	Ph	Name, SPC	antiquewireless.org

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.

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RAMBLINGS FROM THE EDITOR'S DESK

While it may not seem like it September is officially the start of spring in good old ZL land, which means that soon we will all be moaning about how fast the lawns are growing, and how hot it has become. But it also means we will be starting to think about how we plan to spend the summer months.

At work, we received an email from the HR department (Sorry it is now called People Culture and Community or PPC) reminding us to book our Christmas leave. While this is very clearly over the top, at least for those of us who do the work, the reality is that the year is continuing to march on, and before we know it we will have passed many different milestones, and the end of another year will be upon us.

When this month ends, we will be ³/₄ of the way through the year, we will have made it through one of the more unusual years in our history. It's been a good year for the club, We have completed several Ham Crams, and many people have taken the opportunity to gain a General User Radio Licence (GURL). The repeaters are busier, and many nets are enjoying the benefit of some new voices. These are all good signs for the hobby.

Spring is also a great time to look at some of the different ways to get out and do radio including just some of the following.

Summits On The Air

SOTA has been carefully designed to make participation possible for all Radio Amateurs and Shortwave Listeners - this is not just for mountaineers! There are awards for activators (those who ascend to the summits) and chasers (who either operate from home, a local hilltop or are even Activators on other summits).

SOTA operates in nearly a hundred countries across the world. Each country has its own Association which defines the recognised SOTA summits within that Association. Each summit earns the activators and chasers a score which is related to the height of the summit. Certificates are available for various scores, leading to the prestigious "Mountain Goat" and "Shack Sloth" trophies. An Honour Roll for Activators and Chasers is maintained at the SOTA online database.

SOTA began in New Zealand in December 2015 with the North Island coming on line, and 6 months later the South Island joined. With over 5000 valid summits available for activation in New Zealand there sure is something for everyone

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- ZL-Sota Website: <u>http://zl-sota.org</u>
- ZL-Sota Facebook Group

Parks On The Air.

NZ Parks On The Air: Over 30% of NZ is protected as conservation land - giving us one of the best networks of parks in the world. There are over 12000 out there to activate - so what are you waiting for?

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Getting started with POTA can happen via one of two paths — as an "activator" who heads out into the parks or as a "hunter" who is trying to contact someone in a park. The easiest way to participate in POTA is as a hunter.

The first place to start as a hunter is to head to https://pota.app. The home page you land on will be the spotting page, which lets you know who is on the air, what parks they are in, and what frequencies and modes they are currently operating on. Spin the dial, and answer their call if you can hear them. If you make a contact, you've officially started in POTA! That's all there is to it!

While at https://pota.app, click the "sign up" button to create an account, which will let you see your progress towards certificates and awards based on the logs that the activators you contacted submit. POTA is on the honor system, based exclusively on activator logs, so as a hunter, you don't have to lift a finger (Other than the one that hits your key or PTT!).

Activators are the individuals that pack up their portable gear and head out to a park, and set up a station. After you've done some hunting, you might want to take a shot at activating.

Once familiar with the rules, head to the map https://pota.app/#/map. Allow location services to quickly zoom to your location, or use the drop-downs to choose an entity and location. The yellow dots are approximate locations of parks in your area.

Once you've chosen a location in the park, set up your gear, find a quiet frequency, and start calling CQ.

You can use any logging method that generates a valid ADIF file. After generating your ADIF file, head to the "My Log Uploads" section of the website (You'll find that under your callsign in the menu) and use the file dialog to upload your logs. You'll see your stats within a few hours, and any earned awards will start to populate through. At this point, you can sit back and congratulate yourself on joining the ranks as an Activator!

NZART Lakes AWARD

NZ hosts 1184 named lakes, many of which are accessible by car or 4WD. Others require challenging walks, or even boat journeys. The lakes award, also called Lakes on the air, has something for everyone. Take a look and see what's near you - you may be surprised. NZART host an award scheme based on the same list of lakes - just be aware that 2 contacts from each lake are required for NZART.



The New Zealand Lakeside Award is designed to promote operation from New Zealand's scenic freshwater lakes and to stimulate mobile and portable operation. Estuaries and inlets are not counted as lakes. The award is open to all amateur radio operators.

General Rules

Contacts can be made on any band or mode, but not via repeaters or the Internet. Satellite contacts are valid for this award.

The LOG must contain the date, band, mode, station worked, and LINZ lake number (or name) for each QSO.

Endorsements are available for all contacts being achieved on a single band, or mode, or for satellites.

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Rules for Hunters

- For the Basic Hunter Award, contacts are required with stations operating from 10 unique freshwater lakes in New Zealand. There are currently 1184 lakes on the list (which is based on a LINZ list).
- Hunter endorsements are available for each additional group of 10 lakes.
- A Hunter Honour Award is available for contacts with 50 or more lakes.
- Activating Stations must be located within 500m of the lake shore.

Rules for Activators

- The Basic Activator Award is awarded for 10 unique lake activations. A minimum of 2 contacts is required to qualify as an activation.
- You can only activate one lake at a time, and you can't go back to it once you move on to the next one
- Activating Stations must be located within 500m of the lake shore.
- An Activator must supply each contact with at a minimum the lake number or the name of the lake
- Activator endorsements are available for each additional unique 10 lakes activated.
- An Activator Honour Award is awarded for 50 unique activations.

And there are also Huts and Lighthouses (you don't have to wait another year for the lighthouse weekend to get a lighthouse award)

To see where you could possibly get to, you can start at the <u>... On The Air</u> website. This gives "Spots" (current active frequencies being worked by other hams) and lists of all the possible sites you can get to.

Or perhaps you prefer the couch potato approach?



And since a gym membership is so expensive, why not invest that money into ham gear, and go outside and play ... Once the rain stops of course.

And if getting outside really still isn't your thing, then perhaps a chaser's award may be just the ticket.

After all, it's really about using the radio. The only radioactivity New Zealand still allows, and maybe even needs.



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Along with spring growth, many billboards also seem to have sprouted, to remind us of the upcoming elections. As a seasoned Cynic, I have little time for the short 6 weeks that occur every 3 years where suddenly those in Wellington who have ignored us for so long, suddenly find a deep desire for our time and attention. But like it or not the elections must occur, and it falls on us to decide the future of our country.

A term we hear so often during elections is the value of our vote, and the term wasted vote is often used. Yes, votes are valuable, and the right to vote is a privilege many in the world don't get to enjoy. But I wonder how many ways is it possible to waste your vote?



The common mindset would indicate that any vote given to a party not likely to enter parliament is wasted, You need to either support the current direction of the country or you desire a change, any vote that does not support this view, would be a wasted vote. But is it?

If you vote for a party, then you must be supportive of all the party intends to do for the next 3 years (assuming they are willing to tell you) but with the power of your vote, they will have a mandate to perform all that they desire.

If you did not support it, Then did you waste your vote?

If you vote with your conscience, and your vote makes little difference to the balance of power in the next parliament, have you not sent a message to that government that they do not have your support? Is that really a wasted vote? Maybe – Maybe not. It's a question, And one maybe you will be willing to ponder, and perhaps even answer.

Later in the year we too will be holding elections. We will choose the officers who will oversee the club for another year, and the committee who will determine the directions we take, each of us will have two decisions. The easy one is who will we vote for? The more difficult one is who will be standing for the positions. While office holders must have been financial members for 3 years before being nominated, the committee members can be any financial member. But even without a title, there are roles in the club that any member can fill. Any club will be only as strong as its members, and you are the members.

As we prepare for our future, will we all be ready to be contributors to the club, as well as its beneficiaries?

What can we do to set the direction for our club, and perhaps, make it even better next year?

It is worthy of our thought, and I promise it will not be a waste of your time.

73, for now, de ZL1NUX



It's really that simple...



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LESSONS ON FAKE AND CHEAP USB STICKS

While not exactly a radio topic, one of the more interesting reads I discovered over the past few months was on the number of fake SSD SD cards or USB sticks. The general commentary seemed to vary. There were stories of poor-quality chips (factories reject up to 40% of any chip batch, including memory) and selling them resulting in poor performance to other stories that seemed to indicate the normal just doesn't work, but what really caught my attention was a very different approach of fraud.

It seems that some enterprising individuals would get a storage ship, say 8Gb, and hack the controller to make it read as something much larger – Say 64Gb. Then the memory would work in one of two ways, you could store up to 8Gb and after that, the data was just lost, and error messages were blocked, so it seemed to work, but later when you look for the file, It's not there. A more sinister method mapped the same 8Gb 8 times so it looked like it was working but would overwrite the earlier data and your recent files may (unless the get caught in an overlap) seem ok, but old files were lost.

These all came with the same general warning buy a reputable brand or buy at a higher price to avoid fakes. But then they suggested some test tools to see if the memory was any good. Since I had a number of old hard drives with USB interfaces, this test software could be used to test my drives for both performance and reliability, so It seemed like I had a list of useful software for these drives under USB.

WARNING: if you choose to follow any of these tests, please remember, That most of these tests are usually destructive. So, use them only if you do not care about what's on the disk.

But then life got real. I was offered a number of very cheap (about \$5.00) 64GB USB thumb drives, A normal drive is between 8 dollar for a cheap on and 20 for a good quality one, So the price might be too good to be true. And that meant, I may get some "Fake" Disks to play with. So I decided to buy 3 from different suppliers, and try my luck.

Two were 64 GB, and One a massive 256Gb. So I clicked the order and waited . Once I had all three, The fun began.

Now since I'm a huge Linux fan, I did use F3 (F3Probe), Media tester and Capacity tester Media tester is the fastest, But F3 is very comprehensive. But since most people will be using Windows, I will only show the windows software in use here. But the results were identical.

H2TestW: While windows wanted to block it, H2TesW is a well respected tool with a huge following. The software is very easy to use, and ... Very Destructive to your Data. It writes patterns o the drive, and then reads them back, Testing both the capacity and performance of the drive.

A second option is called Fake Flash Test. It did work, But to be really honest I preferred H2TestW.

nztestw	
) Deutsch 🔘 English	www.ctmagazir
Target	
L:\	Select target
Existing test data: 6923 MBy	te. Refresh
Data volume	
() all available space (0 MBy	te)
O only MByte	
12testw Progress	
Writing	Verifving
	6923 MByte
6923 MBYte	
14:53 min	4:24 min
6923 MByte 14:53 min 7.75 MByte/s	4:24 min 26.2 MByte/s
Warning: Only 6923 of 760 Test finished without errors You can now delete the tes Writing speed: 7.75 MByte/ Reading speed: 26.2 MByte H2testw v1.4	4:24 min 26.2 MByte/s 7 MByte tested. t files *.h2w or verify them again. s /s
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Warning: Only 6923 of 760 Test finished without errors You can now delete the tes Writing speed: 7.75 MByte/ Reading speed: 26.2 MByte H2testw v1.4	4:24 min 26.2 MByte/s 7 MByte tested. t files *.h2w or verify them again. s :/s

You get only 2 choices Language, and how much drive to test, and the results are very comprehensive.

The two 64GB drives tested fine. The data was 100% verified. But the 256GB drive was very different. The first 31Gb looked perfect, and then the errors began, everything after 31Gb was corrupted. Bingo – I had a faked drive.

But what type of Fake?

For this I know went to a different tool

Chip Genius – Chip genus is not a repair tool, But rather a tool that look at the drive to see what chips are in it. This showed that the drive had a 32Gb SanDisk chip for the memory, the controller was made by Alcor Micro.

This showed the controller had been modified to fake the value to the OS.

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So how to fix the drive?

Since I was trying to determine what type of layout I had some options, I could load the drive with files and see which ones stuck. Or change the drive partition size. I chose the latter.

I split the partition at 29.8Gb, well less than 32, but remember formatting will use up some of the capacity too, and I wanted to play safe.

For this I could have used the windows tools, but I IM Magic Partition resizer a better tool and its free for personal use.

So I split the drive into two,

🟩 IM-Magic Partition Resizer v6.9.0 - Free Edition 📃 🔀				
Undo Redo Reload disks	- 🔀 - 🕅 - do Tools Language	Upgrade	follow us on facebook f	
Disk 0 61% Basic MBR ¥*: Sy 119.2 GB 50.00 MB		72%	84%) *: (NTFS) 530.0 MB 2.305 MB	
Disk 1 Unalloc E: 8GB SD 7.422 GB 2.938 MB 7.418 GB Disk 2 63% G: Tui Drive(FAT32)	CARD(FAT32)	64%		
234.4 68 29.79 68	204.6 GB			
1.Right click partition -> 2.Select	function -> 3.Apply.	Pending operatio	Apply Changes	

With 32GB, the drive was again tested with H2 test, and no more errors.

This meant they hack simply let any extra data fall into a black hole -

So now 3 working Drives 2x 64Gb, one at 32GB. Not bad for under 20 dollars.

But the story doesn't quite end here. With a little more research, I found that not only can you get the tools to modify the controller, You can get the tools to repair them. Using the Chip data, I already had, and a Russian website, I soon had the repair tool for the Alcor controller. Once run on the drive, the 256 setting was reset for 32GB and the drive restored.

So, in the end, my fake drive experiment gave me three working drives and a lot less spent than the NZ versions, I also learnt way more than I wanted to about USB drives.

At the end of the day, I was possibly not the one being scammed, But remember, if the price is too good to be true, Maybe it will be less than totally truthful, but like all hardware hackers, with a bit of a play, You can still come out with some good value if your happy with a Baofeng rather than an Icom.

But, I'm less willing to hardware hack my Icom.

And if your wondering, Yes the Ali-Express store Got a less than favourable review, and a few screenshots of the fake product data. So I doubt that model will still be for sale, But Hey ... Ther's always another store waiting to take his place.

DID HAM RADIO LOCATE A MISSING AIRPLANE?



Malaysia Airlines flight MH370 disappeared roughly 38 minutes after leaving Kuala Lumpur airport, headed for Beijing, on March 8, 2014.

The plane was never found, and the fate of its 237 passengers remain unknown.

However, new research uncovered by Richard Godfrey, Dr Hannes Coetzee, and Professor Simon Maskell may uncover some of the many missing pieces.

A 299-page report released on Wednesday suggests the missing wreckage may be located roughly 1560km west of Perth, Australia. The theory comes from "ground-breaking" amateur radio technology known as a weak signal propagation reporter, or WSPR.

The researchers explained when an aircraft, like MH370, flies through an amateur radio signal, or WSPR link, the signals are disturbed. These records are stored in a global database.

The researchers used 125 of these disturbances to track the aircraft's path for more than six hours following the planes last radio contacts at about 6pm. Combined with data from Boeing and Inmarsat satellites, and using drift analysis data, the same crash site was located.

Immediately after the broadcast there was a lot of pooh-poohing of the idea that WSPR records can be useful this way. In actuality, Godfrey first presented his ideas in May 2021, and debate about them has raged since then. Here's a brief explanation of WSPR and how Godfrey says he uses it (along with some satellite data) to predict the crash site. We'll also cover some of the main objections to the theory.

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WSPR is actually a protocol, implemented in a computer program, used to find radio LF, MF and HFband propagation paths between amateur radio operators. In a nutshell, a HAM operator hooks his or her transceiver to a computer running the program, then tells the program to set up a frequency shift keyed transmission carrying the operator's callsign, Maidenhead grid locator, and transmitter power in dBm. The program tells the transceiver to broadcast this message and also to listen for similar messages from other operators. It can decode incoming signals with a signal-to-noise ratio as low as -28 dB in a 2,500 Hz bandwidth. Operators with internet access can automatically upload their reception reports to a central database called WSPRnet, which includes a mapping facility.

WSPRnet data goes back to 2008. The key development that gave credence to the idea of detecting MH370 with WSPRnet data was a study by Robert Westphal in Germany who detected several aircraft in Antarctica such as a B787-9, two Dassault Falcon 900EX, an Ilyushin IL76TD and a DC3C commuter airplane via WSPR tests. Westphal said testing in Antarctica was preferred as a way to avoid ambiguities with other aircraft as can happen in crowded air space. Westphal also was able to realize detection ranges of more than 7,500 km from Antarctica to New Zealand.

Westphal suggested a similar approach for MH370 because data about it is recorded in the WSPR database for the the entire eight-hour flight with signals from 7 MHz to 28 MHz, with signals coming from operators in Europe, Asia, North and South America as well as Australia and New Zealand.

Godfrey says the WSPR database contains 91,058 spots and 11,753 unique transmitter receiver links. Often transmitters will automatically send multiple transmissions at the same time which are picked up by over 20 different receivers around the globe. Godfrey says it is possible to see signal anomalies in this data over the timeframe of MH370 and on other days before and after the MH370 timeframe, as well as across the globe from the same transmitter at a particular time.



In addition to the WSPR data, Godfrey says he uses operational Automatic Dependent Surveillance– Broadcast (ADS–B) data of all aircraft in the Kuala Lumpur Flight Information Region during the MH370 time frame. This is a surveillance technology in which an aircraft determines its position via

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satellite navigation or other sensors and periodically broadcasts it, enabling it to be tracked. A spreadsheet models the MH370 flight path and the Inmarsat satellite data, the satellite ephemeris, the weather in the Indian Ocean and the Boeing 777-200ER fuel consumption. Matlab is used for the graphical presentation of the MH370 flight path. Finally, any candidate detection is entered into HF propagation software called Proplab Pro V3.1.

In his blog posts, Godfrey implies he checks each propagation path in the database for its maximum usable frequency, elevation angle, number of hops, interim landing points and proximity to the position of MH370 or other aircraft. Only once a detection candidate passes all the tests does he use it as an indicator to determine the position of MH370.

Criticisms of Godfrey's method generally centre on the WSPR path accuracy. Some say deductions from WSPR data would only be true for paths traveling less than about one-third of the way around the globe. The mental exercise that shows the problem is to assume there are WSPR transmission and reception sites exactly 180° apart at specific points on the Earth that are directly opposite each other. There is no shortest path, and a signal would likely have followed the more highly ionized layers related to the terminator and Earth's magnetic field lines. The potential flaw in the analysis lies in assuming the signal is equally likely to follow an extension of the shortest great circle path that only takes the long way around the Earth.



Critics say there was only one short global WSPR path during the MH370 flight. They claim that all the others in Godfrey's analysis were long-path projections that just happen to confirm his candidate crash site. They further claim there can be no expectation of any accuracy for paths going threequarters of the way around the globe. In a nutshell, critics say that Godfrey's method needs a regular stream of signal reports to work, and that stream can only come from the shortest of global paths. But at the same time, the analysis assumes that each contact signal has taken the longest possible path around the globe via numerous skips yet retaining the accuracy of a single skip or two.

Of course, today the arguments for and against Godfrey's analysis are all theoretical. The proof will be either a crash site or the bottom of the ocean with nothing on it but sand.

MICROSOFT PATENT, LOOKS LIKE A SCI-FI MOVIE

A patent filed by Microsoft that showcases the concept of the AI backpack was filed on May 2, 2023, and published on August 24, 2023, as spotted by MSPowerUser.

The wearable would be able to do much more than your average smartwatch, with advanced capabilities such as scanning an environment, understanding voice commands, and performing contextual tasks.

To perform these tasks, the backpack would include pressure sensors, a microphone, a camera, a global positioning system (GPS), a compass, a barometer, biometric sensors, a speaker, a display for visual outputs, a processor, and more.

In the patent, Microsoft describes the functions of the potential backpack:



The backpack may receive a contextual voice command from a user. The contextual voice command may include a non-explicit reference to an object in an environment. The backpack may use the sensors to sense the environment, use an artificial intelligence engine to identify the object in the environment and use a digital assistant to perform a contextual task in response to the contextual voice command. The contextual task may relate to the object in the environment. The backpack may output a response to the contextual voice command to the user.

An example in the patent displays a skier who is wearing the AI backpack and asking it a question about the slopes, to which the backpack responds: "No. That direction is out of bounds. Ski to your right to stay inbounds."

If you're wondering whether the backpack is something you should expect at the next launch event, the answer is no. There is a long journey between filing a patent and producing the backpack, and that's even if the product makes it to the production point.

In the past, Microsoft has filed several patents for products that never saw the light of day, including a trifold phone and headphones with a fingerprint sensor.

After all most patents are only used when someone else infringes on them, They don't usually results in the next new thing.



But never the less It's an interesting Patent, and some insight of engineers thoughts on AI.

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12,500 TESLAS GIVE AN INSIGHT INTO FAST V SLOW CHARGING QUESTIONS.

The age old question of will a battery degrade faster if you fast charge it, or slow charge it may have been answered.

At least for a telsa battery.

Well, according to a recent study from Recurring Auto that analyzed charging data from over 12,500 Tesla vehicles in the United States, the rate of range degradation is statistically similar when compared to AC charging.

The company, which provides vehicle and battery analysis reports for EVs, compared cars that fast charge at least 90 percent of the time to cars that fast charge less than 10 percent of the time, and the results show little to no difference between the two charging methods.

The charts below show the percentage of the original range as shown on the cars' dashboards – in this case, the Tesla Model 3 and Tesla Model Y – and the number of days.

Choosing between DC (fast) over AC (slow) isn't the only thing that can affect the battery in the long run, with factors such as extreme temperatures and very low or very high states of charge also playing a big role in the big scheme of things.



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However, as Recurrent's results show, the robust thermal, voltage, and battery management systems that EV makers have invested in do protect their batteries from damage with routine fast charger use.

To help the battery last as long as possible, using the preconditioning feature is of utmost importance, both in extreme heat and in extreme cold, as this brings the cells to the optimal temperature before plugging in the charging connector. Another tip is to avoid fast charging at very low states or very high states of charge, as battery resistance is higher at these levels and puts additional stress on the battery.

Another study from 2020 found that battery-powered vehicles, including EVs and PHEVs, encountered battery degradation anywhere from zero percent to 4.1 percent in the first year, with the best-performing model being the 2019 Chevrolet Bolt EV and the worst being the 2019 Mitsubishi Outlander PHEV.

So, If you take care to not charge a battery that is too cold, and also ensure that the temperature during charging does not rise too high, there seems to be no harm in fast charging a lithium battery.



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HEARD AROUND THE SCENES

HAM CRAM

Our next Ham Cram will be held over two Saturdays, The 12th of September and the 7th of October 2023.

Now is the time to let people know, and to get them logged into the Moodle site so they can start preparations before the Ham Cram. The on-line site is also a great place for those who want a licence, but can't make the Ham Cram to study, and ask questions, and of course get support.

So lets get the word out, with the interest in radio right now, it's the perfect time to have that conversation about two way radio. Remember, the more people who talk on the radio, the more people we have to talk to.

It's a win-win scenario

GRANDPARENTS – GRANDKIDS AMATEUR RADIO

When: Sunday 1 October (NZ Grandparents Day) 3PM

Purpose:

Every radio club in the country needs more members. Here a chance to do something about it. Create a happy, successful memory of ham radio in your grandchild's life by inviting them over and tuning in to Grandparents – Grandkids Net. They'll never forget the day Grandad/Grandmum talked on the radio with them. And, eventually, that will lead some of them to join NZART and a local club.

Method:

Invite your grandkids over for a midday meal. After it's cleaned away, get them in the shack and introduce them to Grandparents-Grandkids Amateur Radio Net. A net leader will call for check-ins at 3 PM. When all families are checked in, every participant will get a chance to describe their grandparent or grandchild on a friendly ham radio connection.

Suggested topics What does my grandad/grandmum like to do? What does my grandson/granddaughter like to do?

We don't have a way to meet nationally at present, so 2M repeaters will be used for each region.

Auckland region – Net leader Peter Henderson from Franklin Amateur Radio Club on call-sign ZL1SA – Klondyke Repeater 146.625 MHz

NZART 2024 CONFERENCE

Planning for the 2024 conference at Kings Birthday Weekend is under way. An organising committee has been formed and is determined to make this a memorable event. We are pleased to announce that the venue has been confirmed - the Airforce Museum of New Zealand.

Located on the former RNZAF Base Wigram, this is a world class venue. airforcemuseum.co.nz

Regular updates will be provided via all NZART communication channels.

HAMILTON AMATUER RADIO CLUB MARKET DAY

New and secondhand radio and electronic parts Secondhand computer equipment.

Venue Location

GPS Coordinates - Lat 37:40'17.04"S Lon 175:18'28.99"E

Click <u>HERE</u> for the location of the Gordonton Hall

DETAILS:-

- Vendors entry from 8am
- Buyers (free entry) from 10am
- Table Space \$20.00 per metre prepaid
 - \$25.00 per metre on the day
 - Vendors Registration Form available HERE
- Food and Refreshments will be available

All enquiries to:

Market Day Hamilton Amateur Radio Club P.O. Box 606 Waikato Mail Centre Hamilton 3240

OR E-mail: harcmday@nzart.org.nz

You never know what or who you may find there.



685 REPEATER

I am pleased to advise that the Rodney Amateur Radio Club has a new repeater up and running.

It will be known as Hoteo 685 the Frequency is 146.850 and will need a tone of 123.0 to trigger the repeater. The repeater is expected to provide a good strong signal all around, but particularly to the North and West.

The Rodney Club has members up in Wellsford and beyond who can have difficulty accessing the original 730 repeater, so this is a very welcome addition and gives us coverage of most of the Rodney area.

The existing Rodney 730 repeater is back up and running again, having had a tough time (being 100% solar-powered) over the midwinter period. Remedial work is underway to put a much larger solar panel on the 730. A metal frame and supports are being welded up and should be installed along with the new panel in the next few weeks. This will provide additional electrical capacity and will allow the power on the 730 to be increased to improve its signal.

Thank you all for your patience with the 730 repeater's mid-winter "hiccups". We are looking forward to a more reliable service once this work is done.

Editors Note: While the 730 repeater is noise-free from Papkura, Users in the North are finding some noise on our signals when we transmit (almost Digital in sound) The 730 repeater may be our best link to the north from Papakura

THE NEXT OFFICIAL BROADCAST WILL BE HELD SUNDAY 24THSEPTEMBER 2023 AT \$:00 PM.14.80



It will be rebroadcast in the Auckland area on the 6625 Repeater, available on the NZART website: <u>NZART-Official Broadcast</u>

does the red mean the fish is still raw??? should i cook it more??

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A WEE SMILE



Papakura Radio Club Inc.

Day	Time (Local)	Freq (MHz)	Group
Sunday	08:00	3.750	Southern Net
-	09:00	3.700	Bch 10. Franklin.
	09:15	3.755	Bch 65. Papakura.
	19:00	146.700	YL Net
	20:00	3.710	Bch 42. Titahi Bay
	21:30	3.595	Duran WIA Net.
Monday	19:30	3.757	Bch 12. Hamilton
i	20.00	3.540	CW Practice Net
	20:00	3.605	Br 80. Hibiscus Coast
	20:00	Nat System	W.A.R.O
	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	SPAM Net
	20:00	3.660	Geek Net
	20:00	3.645	Bch 02. Auckland
	20:00	3.745	Bch 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	Bch 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
	20:00	3.760	???
	20:30	3.600	Ch 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	VK70B
	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 7I 2MA
	21.00	3 535	New Zealand Net (CW)

SOME NETS - FOR WHEN YOU ARE LOOKING FOR SOME COMPANY

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

Papakura Radio Club Inc.

Papakura Radio Club Inc. Branch 65 NZART Club Directory 2017 Wellington Park, 1 Great South Road. PO BOX 72-397 Papakura 2244 PHONE 09 296 5244 Westpac 03-0399-0019896-00

Club website: http://www.qsl.net/zl1vk Club email: zl1vk.club@gmail.com

President	ZL1NUX	Gavin Denby	021 459 192
Vice President	ZL1BNQ	Richard Gamble	021 729 270
Secretary	ZL1AOX	Ian Ashley	021 198 1810
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
AREC Section Leader	ZL1BNQ	Richard Gamble	021 729 270
CD Liaison	ZL1AOX	Ian Ashley	021 198 1810
Newsletter Editor	ZL1NUX	Gavin Denby	021 459 192
Hall Custodian	ZL1AOX	Ian Ashley	021 198 1810
Newsletter.	Contact:	zl1nux@outlook.com	1

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)