



# The Official Newsletter of the **PAPAKURA RADIO CLUB INC.**

*May 2020*

**I'VE EXPANDED MY SKILLS.**

**I CAN NOW FORGET  
WHAT I'M DOING WHILE  
I'M ACTUALLY DOING IT.**

*Time to adapt to this strange new world*



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### This Month's Meetings:

Due to the Lockdown of New Zealand by the Government, all club meetings that would have been face to face are now to be held on air or on-line. This may even continue well beyond level 2

As Radio Amateurs, we should be relying on our on-air infrastructure as a priority, rather than the internet, and this is the approach we have taken, so our first port of call for all meetings is the 146.825 repeater. We are aware, that there is potential for some to not have access to the repeater, and so we have a few individuals monitoring the FM simplex call frequency of 146.475. If you cannot access the repeater, but wish to keep in touch, try the simplex frequency, and someone is likely to come back to your call.

But unless we have an unexpected change, we are planning to have our Wednesday meeting on the 6825 repeater at 7:30pm – A roll call will be taken on air at the beginning, and again at the end of the meeting. Unsure yet how the guest speaker will work This will be new to all of us, so, bear with us as we try this out, it may be how we have meetings for some time, so we must learn how to make this work.

# Papakura Radio Club (Inc.)

Minutes of General Meeting 1<sup>st</sup> April 2020 at 19.30

Held on the 690 repeater due to lockdown

President Gavin ZL1NUX welcomed members present.

ZL1AOX, ZL1MR, ZL1RAH, ZL1FBT, ZL1DK, ZL1BNQ, ZL1RP, ZL1RJS, ZL1RIC, ZL1IJ, ZL1GIT, ZL1WA, ZL1BYZ & ZL1ASN

**Apologies:** ZL4MDE, ZL1IRC, ZL2SEA ZL1ING.

ZL1DK/ZL1FXR

**Minutes of the MArch General meeting** as printed in newsletter were read, and approved.

**Matters arising:** Nil

ZL1NUX/ZL1DK

**Inward Correspondence:**

Email from Auckland city council

**Outward Correspondence:** Nil

ZL1AOX/ZL1RIC

**Finances:** Dave ZL1MR reported that the Club now has online banking with Westpac available to President, Secretary and Treasurer. One signature of Richard ZL1BNQ removed.

Accounts to pay: Nil

Moved ZL1MR/ZL1RJS that accounts be approved. Carried.

Dave suggested that the Club consider adding another signing signature but these options need to be explored and may require change in Constitution

**General Business:**

1. Meetings 2020:  
April 1<sup>st</sup>: On Air Only  
May 6<sup>th</sup>: TBA
2. **Bushcomm antenna:** On hold until further notice.
3. **Project/activity Nights** TBA.
4. **On Air Meetings:** Dave ZL1MR advised he uses ZOOM for meetings and could be used for the General Meeting. Gavin ZL1NUX will look at other options such as “Big Blue Button” which can be accessed just via a web browser and does not require any software to be installed on users’ computer.
5. **On Air Meetings:** ZL1DK, ZL1BNQ, ZL1WA, ZL1RP, ZL1RJS, ZL1ASN plus others agreed that the on air meetings are good during the COVID-19 crisis. Gavin ZL1NUX moved that the next meeting be held on air, seconded by David ZL1DK. Carried
6. **ZL1MR:** Advised he has a cross patch for his Codan and will look into how it could be used to link VHF to HF

7. **Straight Keys:** Cliff ZL1RP advised the group he has 4 straight keys which are free to a member learning the Morse code
8. **Linking VHF 690 to HF:** David ZL1DK said that it may require permission from the Auckland VHF Group
9. **CW Classes:** David ZL1DK advised that he is running classes on 3.755 LSB daily at 7.30pm. He is using Teach4 software from the NZART site. CW is at 16 wpm with send speed of 6 wpm. Each session lasts 30 minutes
10. **Welfare Net:** Held daily on 690 at 08.30 am jointly with Franklin Radio Club Branch 10. Jackie ZL1WA will be net control on the 1st and 2nd of April

Meeting closed at 20:00 and was followed by check in's and comments from Members.

### FROM THE SAD BUT TRUE FILE:



In the 1980s, A&W tried to compete with the McDonald's Quarter Pounder by selling a 1/3 pound burger at a lower cost. The product failed, because most customers thought 1/4 pound was bigger.

This, maybe, explains why they still watch CNN



## CLUB ACTIVITY:

- The club has responded to the unprecedented challenge of COVID-19 with several initiatives. So, while all meetings at the clubrooms are cancelled – as required by law, we have alternatives that will keep us connected.

### March

- Daily (except Sunday) 08:30 – Wellbeing Net on 6.90 repeater
- Sunday 08:30am Club VHF net on the 690 repeater
- Wednesday 6<sup>th</sup> May 6825 Repeater – An attempt at an on-air meeting, following general business, we will have a mystery speaker or topic
- Wednesday 20<sup>th</sup> There will be committee meeting (Probably on Zoom) – Committee member will be contacted directly.

## UPCOMING PROJECTS:

### MORSE TRAINING EACH NIGHT EXCEPT WEDNESDAY 7:30 – DAVID ZL1DK

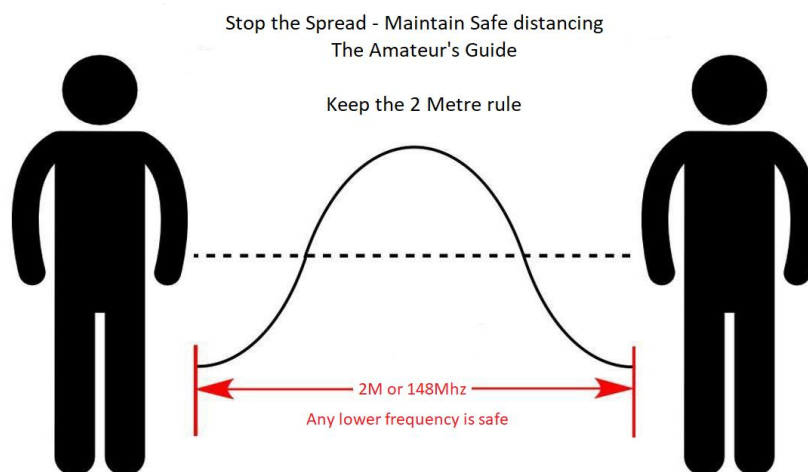
Each night at 19:30 Local, David will be transmitting Morse (audio – LSB) on the Club HF frequency of 3.755 (80 Metres), Following the transmission the message as sent will be read out, and you can self-mark.

The teaching Tool is the Teach4 system and can be found on the NZART website at <https://www.nzart.org.nz/learn/morse-code/> The recommended speed setting is 6 words per minute and 16 word Farnsworth setting (this will change later once we have mastered the alphabet.) This is a great chance to either learn a new skill, or brush up an old one

## UPCOMING ACTIVITIES:

### FACE TO FACE ON HOLD FOR DURATION OF LOCKDOWN

See above for on-Air activities



## DX CALENDAR MAY 2020

### FEATURED DXPEDITIONS TIMELINE

Last update: April 29, 2020



Edited by MM0NDX

APRIL

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Or check them out at [DX News.com](https://www.dxnews.com)

## NET FREQUENCIES OR FREQUENCIES TO USE IF YOU NEED ASSISTANCE

### MONITORED DURING THE DAY

SIMPLEX FM CALL	RX 146.475	TX 146.475
6825 REPEATER (IANS HOUSE)	RX 146.825	TX 146.225
690 REPEATER (BOMBAY)	RX 146.900	TX 146.300
HF (80 METRES) SIMPLEX	RX 3.755	TX 3.755

### WHERE YOU MAY ALSO BE HEARD DURING THE DAY

6625 REPEATER (KLONDYKE)	RX 146.625	TX 146.025
670 REPEATER	RX 146.700	TX 146.100
5775 REPEATER (MUSICK PT)	RX 145.775	TX 145.175



# UPCOMING CONTESTS – MAY 2020

Date-Time	Date-Time	Bands	Contest Name	Mode	Exchange	Sponsor's Website
1 1300	1 1900	3.5-28	AGCW QRP/QRP Party	CW	RST, serial, class (A or B)	<a href="http://agcw.org/index.php/en">agcw.org/index.php/en</a>
2 0000	3 1600	50, 144	Araucaria World Wide VHF Contest	CW Ph	RS(T), 6-char grid square	<a href="http://www.avhfc.com">www.avhfc.com</a>
2 0001	3 2359	28	10-10 International Spring Contest, CW	CW	Name, mbr or "0," SPC	<a href="http://www.ten-ten.org">www.ten-ten.org</a>
2 0300	2 0859	3.5-28	RCC Cup	CW Ph	RS(T), mbr or ITU zone	<a href="http://rcccup.ru">rcccup.ru</a>
2 0600	3 2359	2.3 GHz and up	SBMS 2.3 GHz and Up Contest	CW Ph Dig	6-char Maidenhead locator	<a href="http://n6nb.com/sbmsrules.htm">n6nb.com/sbmsrules.htm</a>
2 0800	2 1400	All above 902	Microwave Spring Sprint	CW Ph Dig	6-char grid square	<a href="http://sites.google.com/site/springvhfupsprints">sites.google.com/site/springvhfupsprints</a>
2 1200	3 1159	3.5-28	ARI International DX Contest	CW Ph Dig	RS(T), province or serial	<a href="http://www.ari.it">www.ari.it</a>
2 1300	3 0700	1.8-28	7th Call Area QSO Party	CW Ph	RS(T), 5-letter state/county code or SPC	<a href="http://7qp.org">7qp.org</a>
2 1500	3 0300	1.8-28	Indiana QSO Party	CW Ph	RS(T), IN county or SPC	<a href="http://www.hdxcc.org/inqp">www.hdxcc.org/inqp</a>
2 1700	2 2100	3.5-28	FISTS Spring Slow Speed Sprint	CW	RST, SPC, name, mbr or power	<a href="http://fistsna.org">fistsna.org</a>
2 1700	3 2359	1.8-VHF	Delaware QSO Party	CW Ph	RS(T), DE county or SPC	<a href="http://www.fsarc.org/qsoparty">www.fsarc.org/qsoparty</a>
2 2000	3 2359	3.5-28	New England QSO Party	CW Ph Dig	RS(T), county+state or SPC	<a href="http://www.neqp.org">www.neqp.org</a>
4 1900	4 2030	3.5	RSGB 80-Meter Club Championship, SSB	Ph	RS, serial	<a href="http://www.rsgbcc.org/hf">www.rsgbcc.org/hf</a>
4 2300	5 0300	All, no WARC	MIE 33 Contest	CW Ph	RS(T), age, "ME" or "MEJ"	<a href="http://www.ztv.ne.jp/isoda/33">www.ztv.ne.jp/isoda/33</a>
5 0100	5 0300	3.5-28	ARS Spartan Sprint	CW	RST, SPC, power	<a href="http://arsqrp.blogspot.com">arsqrp.blogspot.com</a>
7 1700	7 2100	28	NRAU 10-Meter Activity Contest	CW Ph Dig	RS(T), 6-char grid square	<a href="http://www.nrau.net">www.nrau.net</a>
7 1900	7 2100	1.8-50	SKCC Sprint Europe	CW	RST, SPC, name, mbr or power	<a href="http://www.skccgroup.com">www.skccgroup.com</a>
9 1200	10 0800	50,70,144, 432,1296	SARL VHF/UHF Digital Contest	Dig	RST, 6-char grid locator	<a href="http://www.sarl.org.za">www.sarl.org.za</a>
9 1200	10 1159	1.8-28	CQ-M International DX Contest	CW Ph	RS(T), serial	<a href="http://cqmr.srr.ru/en-rules">cqmr.srr.ru/en-rules</a>
9 1200	10 1200	3.5-28	VOLTA WW RTTY Contest	Dig	RST, serial, CQ zone	<a href="http://www.contestvolta.com">www.contestvolta.com</a>
9 1200	10 2359	1.8-50	SKCC Weekend Sprintathon	CW	RST, SPC, name, mbr or "none"	<a href="http://www.skccgroup.com">www.skccgroup.com</a>
9 1400	10 0200	3.5-28, 144	Arkansas QSO Party	CW Ph	RS(T), county or SPC	<a href="http://www.arkqp.com">www.arkqp.com</a>
9 1700	9 2100	3.5-28	FISTS Spring Unlimited Sprint	CW	RST, SPC, name, mbr or power	<a href="http://fistsna.org">fistsna.org</a>
9 2300	10 0300	50	50 MHz Spring Sprint	CW Ph Dig	4-char grid square	<a href="http://sites.google.com/site/springvhfupsprints">sites.google.com/site/springvhfupsprints</a>
10 1000	10 1400	7	WAB 7 MHz Phone/CW	CW Ph	RS(T), serial, WAB square or country	<a href="http://wab.intermip.net">wab.intermip.net</a>
11 0000	11 0200	1.8-28	4 States QRP Group Second Sunday Sprint	CW Ph	RS(T), SPC, mbr or power	<a href="http://www.4sqrp.com">www.4sqrp.com</a>
13 1900	13 2030	3.5	RSGB 80-Meter Club Championship, Data	Dig	RST, serial	<a href="http://www.rsgbcc.org/hf">www.rsgbcc.org/hf</a>
16 0600	16 2100	1.8-28	UN DX Contest	CW Ph	RS(T), District code or serial	<a href="http://undxc.kz">undxc.kz</a>
16 0800	17 1100	3.5	NZART Sangster Shield Contest	CW	RST, serial, ZL Branch number (if ZL)	<a href="http://www.nzart.org.nz/activities">www.nzart.org.nz/activities</a>
16 0900	18 1700	3.5-28	Portuguese Navy Day Contest	CW Ph Dig	RS(T), mbr or serial	<a href="http://www.nra.pt">www.nra.pt</a>
16 1200	17 1200	1.8-28	His Majesty King of Spain Contest, CW	CW	RST, EA province or serial	<a href="http://concursos.ure.es/en">concursos.ure.es/en</a>
16 1200	17 1200	3.5-28	Aegean RTTY Contest	Dig	RST, serial	<a href="http://www.aegeandxgroup.gr">www.aegeandxgroup.gr</a>
16 1600	16 2159	1.8-50	Feld Hell Sprint	Dig	RST, mbr, SPC, grid	<a href="http://sites.google.com/site/feldhellclub">sites.google.com/site/feldhellclub</a>
17 1900	17 2359	1.8-28	Run for the Bacon QRP Contest	CW	RST, SPC, mbr or power	<a href="http://qrptest.com/pigrun">qrptest.com/pigrun</a>
18 1900	18 2030	3.5	RSGB FT4 Contest Series	Dig	4-char grid square	<a href="http://www.rsgbcc.org/hf">www.rsgbcc.org/hf</a>
21 0030	21 0230	3.5-14	NAQCC CW Sprint	CW	RST, SPC, mbr or power	<a href="http://naqcc.info">naqcc.info</a>
21 1600	21 2200	3.5, 7	QRP Minimal Art Session	CW	RST, class, number of components	<a href="http://qrpc.de">qrpc.de</a>
23 2100	24 0200	3.5	Baltic Contest	CW Ph	RS(T), serial	<a href="http://www.lrsf.lt/en">www.lrsf.lt/en</a>
25 0000	25 0100	1.8-28	QRP ARCI Hootowl Sprint	CW	RST, SPC, mbr or power	<a href="http://qrparci.org/contests">qrparci.org/contests</a>
25 1300	26 0400	1.8-28	QCX Challenge	CW	RST, name, SPC, rig	<a href="http://qrp-labs.com/party.html">qrp-labs.com/party.html</a>
27 0000	27 0200	1.8-28	SKCC Sprint	CW	RST, SPC, name, mbr or power	<a href="http://www.skccgroup.com">www.skccgroup.com</a>
28 1900	28 2030	3.5	RSGB 80-Meter Club Championship, CW	CW	RST, serial	<a href="http://www.rsgbcc.org/hf">www.rsgbcc.org/hf</a>

All dates and Times are in UTC and are not adjusted for local time

Mbr = Membership number. Serial = Sequential number of the contact. SPC = State, Province, DXCC Entity. XE = Mexican state.

Listings in blue indicate contests sponsored by ARRL or NCJ. The latest time to make a valid contest QSO is the minute listed in the "Finish Time" column. Data for Contest Corral is maintained on the WA7BNM Contest Calendar at

[www.contestcalendar.com](http://www.contestcalendar.com)

Check for updates and a downloadable PDF version online at [www.arrl.org/contests](http://www.arrl.org/contests).

## RAMBLINGS FROM THE EDITORS DESK

Well it's been over 6 weeks now since I got to leave the house, other than to line up for 2 hours for groceries and one Negative Covid-19 Test/Doctors appointment. And while I have been busy, really busy, I am not Ok. There I said it. No sunshine and butterflies, Just facts. It's been really hard trying to do so much more without resources and from a garage while other family members also have need space, and I have had to avoid tripping over them too. It's been tough, and there's no sign that it will let up and time soon.

Level 3 still means that only a very small amount of our piling up workload can get done, and even the guidelines for level 2 are looking like everything will take 3 times as long, and I'm one of the lucky ones, I'm still on full pay, and I have a job. Many have not been as lucky as me, and looking forward, the closures are only going to get worse. Streets will remain empty (apart from the long queue's for coffee or takeaways) for a long time yet. Gatherings are still forbidden, and it's looking like any possibility of opening the clubrooms for a meeting is still a long way in the future. The new normal is looking anything but normal.

When this started, we took the steps of opening up some special 2 metre nets and getting some serious talk on the repeaters, I sat in a room with the radios on, and 3-4 repeaters could be busy at the same time, The bands were full on, and it was encouraging. I heard people on air, who I did not normally hear, and there we hams pulling out old gear and getting back on air. IT WAS AWESOME !!! But today I have listened on 5 repeaters, and a number of simplex scans, and all I have heard has been 3 conversations all day. The radios are quiet, and yet we are still in lockdown. What changed?

Last month I warned that the lockdown would bring out the best in some, but also the worst in others, and we have seen both, Great acts of kindness, and sadly equally great acts of rudeness or nastiness. And we have seen this, in hammer attacks on dairy owners, and illegal roadblocks as we were finally allowed to a beach, only to be told we were not welcome, unless we lived there. We have seen the "dobbing in" culture reach over 2,500 calls per day, while actual problems were 140. This is fear, and it's taking a serious toll on communities. The most polite of bullies, is still a bully, and vigilantes, like fear, divide us.



Sadly I have heard way too much of this vigilante mindset on air, and it's NOT OK!!! – I will not parrot platitudes of Be Kind. Instead I ask that you remember we are governed by the rules of the "Act of Parliament" that gives us the right to use frequencies on a shared basis, with a very clear understanding that being frequency agile, we will move rather than cause interference with (or button push on top of) others, and we will tolerate others using the same frequencies. We do not have to like them, or their opinions, but we have to respect them, as they have the same "Rights" as we do.

With so long in lockdown we are all going to be struggling, and this is going to test us as never before. Are we up to the challenge of letting people have conversations, build contacts, and make mistakes? A gentle guide might be more effective than a dramatic slap, but make sure of the facts first. And remember if all else fails, there is the Volume, Channel selector or even the off switch. We have the ability to be better.

***Before you hit the PTT, as yourself, would I still do this in front a classroom of young potential hams?***



A minister shared recently that while walking down the street, deep in thought, he did not notice two people walking towards him, until they yelled at him "2 METRES !!! ... 2 METRES !!!" He apologised and moved, and then as they continued to yell, but then he wondered, why was it me that had to move? Why couldn't they?

Why must others operate around us, or can we move to allow them room?  
We are frequency agile! We should be capable to move too, or even move first



On a more positive note, we have seen the good side of the hobby with daily nets, and even the backyards on the air. While I have not been able to join these much, due to other commitments (and an S9 noise level on HF at my QTH), it's been good to see an effort made to keep the contacts up, while we can't get out to do the parks or Summits we might otherwise have managed.

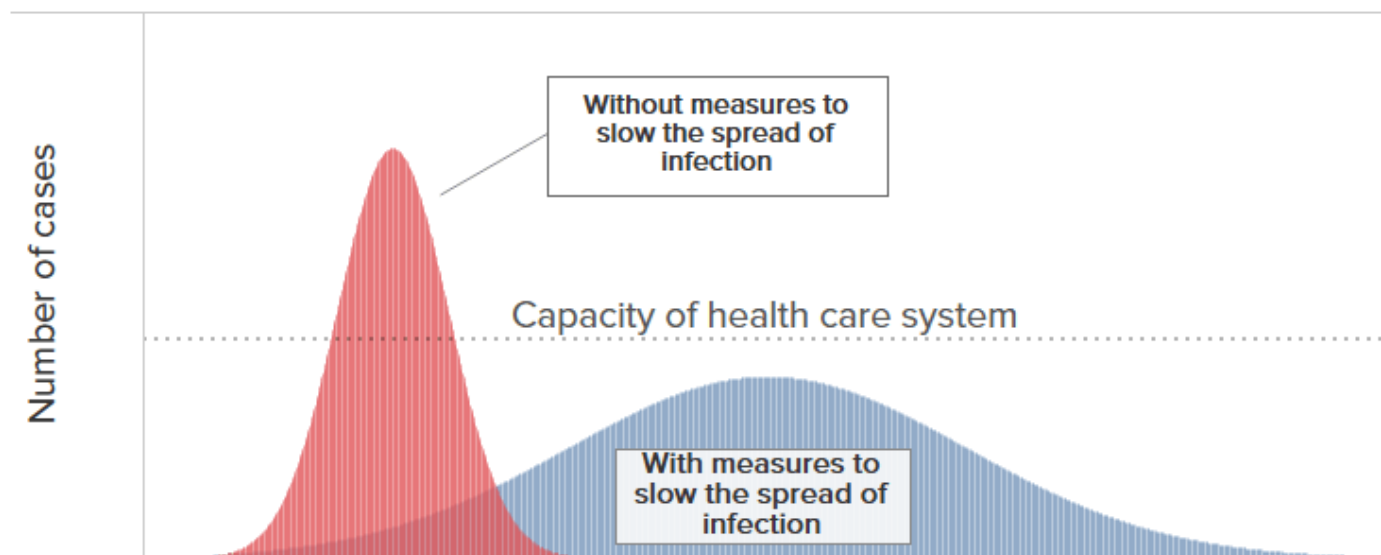
Several members have brushed up on, or even taken up the Morse classes that David ZL1DK is running. Others have resurrected old projects, and I have managed to get a few older radios back up and running, and am looking forward to getting the van out to a park once the levels allow it, most parks are still closed, and police are still limiting travel distances, so we have a bit further before any normality will return to my world, so I may have to figure out solutions that allow me to operate better in the high noise situation of Auckland dense housing. But without a doubt, one of the best parts of ham radio, is the number of different things we can do with the hobby.



So in this newsletter I have included some of the things that others have shared with me that have helped them, ranging from helpful websites, to images downloaded from satellites to just plain fun ideas.

I have added some science news, but I will be avoiding the virus topic as I'm sick of it, and just because I can. But I hope that I have put together a mix of humour, and information that may give you an idea or two of how to keep the blues at bay as we find out the one big problem of flattening the curve, (anyone else also think that still sounds like an exercise program?), is that while less people get sick at once, the time taken before the infection spread ends is much, much longer, so we will be spending a very long time based on our very low cases.

## Flattening the curve



We have already had the Auckland city council question our intentions, and how we will be managing the risks of spread, so before we will be allowed to re-open the clubrooms, we will need to have very strict controls on how we operate, so we can expect the on-air, and possibly even Zoom meeting presentations for some time yet, Yes they have addressed most of the security concerns.

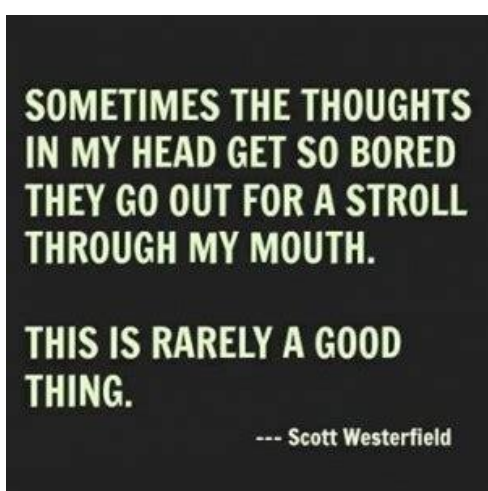
The other good news is that the club remains in a strong financial position; Due in no part to its excellent management by the Past presidents and committee members over many previous years, and with the continued support of its members, is unlikely to face major issues. While we will have to dip a little into the reserves, we will emerge in a stable secure position. This situation is unlikely to change, as the current committee is not willing to expose the club or its members to risks, so until we can return to something closer to normal, we will continue to maintain the facilities and resources as we can, and keep up as many services to our members as we are able to do.

This means that we will continue to support the hobby in every way we can, and if you have ideas of things we can do to help you enjoy your radio during this time, please let us know, your committee is still meeting, and is here to serve you.

Finally a reminder, that we will be using the STSP 6825 repeater for the Wednesday meeting and the repeater is there to be used. As a special purpose portable repeater it can be deployed for special situations and this is most certainly a “special situation”. So, with thanks to Ian Ashley, who has hosted it on behalf of the club, please take the opportunity to give it a workout, and make use of this local area repeater.



Quarantine is getting to me..I laughed way too hard at this



But above all, Keep well, Do what you need to protect your own physical and mental health, and keep in touch.

It's OK if you you're not living the perfect life in Lockdown, this is Ham radio – It's not Instagram or facebook.

We focus on making it work, and getting the message out, Pretty is left for others.

So Hack it till it does what you want, then live life to the fullest you can, It's too short to live in fear and worry.

73 Gavin ZLINUX



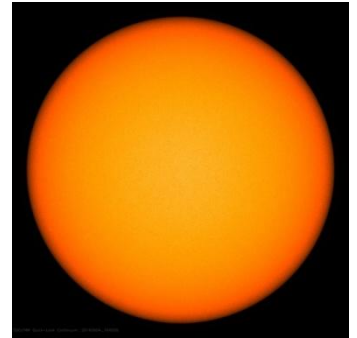
Believe it or not there is news other than the latest version of ~~influenza~~ Coronavirus... So here is some of it.

### THE SUN IS LESS MAGNETICALLY ACTIVE THAN SIMILAR STARS, AND WE DON'T KNOW WHY

A census of stars similar to the sun shows that our own star is less magnetically active than others of its kind, astrophysicists report in the May 1 *Science*.

The result could support the idea that the sun is in a “midlife crisis,” transitioning into a quieter phase of life. Or, alternatively, it could mean that the sun has capacity for much more magnetic oomph than it’s shown in the past.

“Our sun could potentially become [as] active” as those other stars in the future, says astrophysicist Timo Reinhold of the Max Planck Institute for Solar System Research in Göttingen, Germany.



A star’s magnetism can drive dramatic outbursts like flares and coronal mass ejections, which can cause chaos on orbiting planets. When these large ejections from the sun hit Earth, they can knock out satellites, shut down power grids and trigger beautiful auroras. Understanding the sun’s magnetic field is thought to be the key to predicting such outbursts.

Magnetic fields also can create dark sunspots and bright spots called faculae on a star’s surface. These features change over time as magnetic activity changes, altering a star’s brightness.

Astronomers have been observing the sun’s magnetism through those surface features since Galileo turned a telescope toward the sun in 1610. While the sun’s magnetic activity waxes and wanes in an 11-year cycle, our star has remained fairly calm while humans have been watching. Inferences from certain radioactive elements found in tree rings and ice cores suggest that same overall cycle of magnetic activity has held steady for the last 9,000 years.

To see how the sun’s brightness compared with its stellar kin from 2009 to 2013, Reinhold and his colleagues studied stars whose age, surface gravity, chemical makeup and temperature are similar to the sun’s. The team also sought stars that rotate at nearly the same rate as the sun, roughly once every 24 days.

Surprisingly, although the stars with no detectable rotation periods looked as magnetically calm as the sun, the stars with sunlike rotations were up to five times as active.

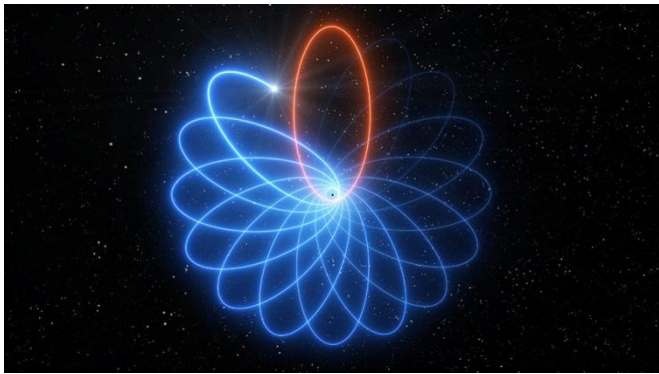
Either something is different about those stars, Reinhold says, or the sun may go through periods of greater variability in its brightness — and thus, magnetic activity — that scientists just haven’t seen. Perhaps “the sun did not reveal its full range of activity over the last 9,000 years,” he says. “The sun is 4.5 billion years old; 9,000 years is nothing.”

The new result “could be the best evidence yet that the sun is in the midst of a magnetic midlife crisis,” Metcalfe says. The hyperactive stars in Reinhold’s sample appear to be slightly younger than the sun, and so may not have gone through their magnetic transition yet. The sun and the other calmer stars could already be on the other side.

“It’s super interesting either way it turns out,” Metcalfe says.



## A STAR ORBITING THE MILKY WAY'S GIANT BLACK HOLE CONFIRMS EINSTEIN WAS RIGHT



& Astrophysics.

The first sign that Albert Einstein's theory of gravity was correct has made a repeat appearance, this time near a supermassive black hole.

In 1915, Einstein realized that his newly formulated general theory of relativity explained a weird quirk in the orbit of Mercury. Now, that same effect has been found in a star's orbit of the enormous black hole at the heart of the Milky Way, researchers with the GRAVITY collaboration report April 16 in *Astronomy*

The star, called S2, is part of a stellar entourage that surrounds the Milky Way's central black hole. For decades, researchers have tracked S2's elliptical motion around the black hole

Now, they've determined that the ellipse rotates over time, what's known as Schwarzschild precession. That precession is the result of the warping of spacetime caused by massive objects, according to general relativity. A similar precession in Mercury's orbit had stumped scientists before Einstein came along.

While physicists have never found a case where general relativity fails, they are searching for any cracks in the theory that could help lead to a new, improved theory of gravity. The new study confirms that Einstein's theory checks out once again, even in the intense gravitational environment around a supermassive black hole.

## TO COOK A PERFECT STEAK, USE MATH



*A mathematical simulation reproduces the juicy interior of a delicious cut of oven-roasted meat*

Hala Nelson and her colleagues wanted to cook the perfect steak. So they decided to use math.

The researchers created [a mathematical simulation of a lean slab of beef roasting](#) in an oven. That simulation successfully reproduced the temperatures and moisture levels seen within meat in laboratory experiments previously performed by food scientists, the team reports March 23 in *European Physical Journal Plus*.

In the simulation, the steak consists of a two-dimensional network of proteins filled with fluid. Mathematical equations determine what happens as the simulated meat cooks. For example, the proteins are deformed, water evaporates, and the steak shrinks. The exterior of the steak dries out, while liquid moves toward the center, making the interior nice and juicy.

Based on how well-done you prefer your steak, and how moist you want it inside, you can use the results of the study to determine how to cook it to perfection, says Nelson, an applied mathematician at James Madison University in Harrisonburg, Va. But she hasn't changed her cooking technique: "I still make my husband cook the steak."

## HOW TO MAKE THE BEST FRIED RICE, ACCORDING TO PHYSICS

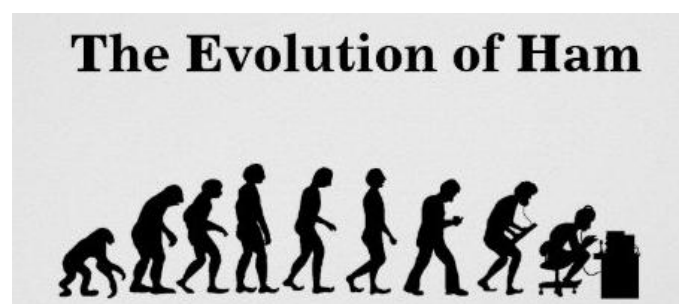


*Scientists have analyzed motions that chefs use to toss the food into the air during cooking*

To make fried rice like a pro, use physics.

Chefs typically toss fried rice from their woks into the air before catching it again. Launching the rice and its fixings allows the food to cook at a high temperature without burning, essential for creating the tastiest stir-fried fare. Now, using video of five chefs in Chinese restaurants, physicists have analyzed the repetitive movements used to toss the rice. These chefs made a specific set of motions that repeated about three times a second, the researchers report February 12 in the *Journal of the Royal Society Interface*. Each repetition includes sliding the wok back and forth while simultaneously rocking it to and fro, using the rim of the stovetop as a fulcrum.

By simulating the trajectories of rice in a wok, the researchers hit on some key culinary tips. The rocking and sliding motions shouldn't be totally in sync, otherwise the rice won't mix well and could burn. And the wok's movements should repeat rapidly. Moving the wok even faster could launch the rice higher, and might allow cooking at higher temperatures, and perhaps a quicker meal. But faster shaking may be difficult for chefs to achieve. According to previous studies, chefs at Chinese restaurants can struggle with shoulder pain, and rapidly shaking a wok could be part of the problem. The researchers suggest that a stir-frying robot could be built based on these results, taking the weight off chefs' shoulders.





## LIFE IN LOCKDOWN – ZL1GIT

As level 4 approached we hurriedly prepared ourselves with what we felt we would need to help us get through lockdown both physically and mentally....I ordered wool (definitely essential with a grandchild on the way – and also for mental health☺), we bought a new card game....again necessary for mental health! There was also food both for us and our pets and the necessary worming and flea treatments for the pets. Whew! That was done....then came the sad ‘goodbye for now’ hugs with our grandchildren! That was very tough!!!

Preparations all done, all we had to do was relax into the new norm! I shouldn’t find it too tough....after all, I am a homeschooler, introvert (the cancellation of social events was a bit of a positive) and I love to be at home! This was going to be good! My OM would now be working from home so I had adult company for my morning and afternoon teas. I was also beginning to finally learn Morse code thanks to David (ZL1DK) who was encouraging those of us wanting to learn by giving us practice at listening to it each night on 80m! Life was good! That was the first week....then as time moved on and medical appointments I had been waiting a long time for were cancelled, updates of the virus were being fed to us from multiple sources, the rules changed and we were not allowed to go to the beach for a walk unless we could walk there, food shopping meant long queues and missing items, my OM and youngest daughter were trying to work from home, people



were constantly talking to me, one of our daughter’s was having a very tough time and I wasn’t allowed to visit to have a coffee, cry and hug....the list went on! Suddenly I found myself feeling anxious, tired, and very alone (even with 5 of us in our bubble)! Everyone else I spoke to seemed to be doing fine....the morning welfare nets held in our area which I had been enjoying chatting in, the family messenger group....why wasn’t I managing after all I was the one who should have found this easy, even enjoyed it! I decided it best to stay off the net....I didn’t want to drag others down and made sure my messages in our family messenger were positive.

Then one day after looking at all the jolly messages in our family messenger group, I lost it, I had tried to only say positive things, but I had to ask.... “Am I the only one not coping?” Then the replies came back....almost unanimously...I’m not coping either. As awful as it sounds, it was a relief! I wasn’t alone with how I felt! I am very blessed that one of my daughter-in-laws is a mental health nurse and she assured me I was okay and to not expect so much of myself with the pressure of being in lockdown....take a break, have a rest.

I had noticed I wasn’t achieving anywhere near as much as I would normally....even without all the normal outside interruptions of visitors and social events! But that was okay...I was given the illustration by a friend...it’s like wearing a wet sock, after a while you forget it’s there, but it is and it’s affecting you, irritating you, even though you’re not really noticing it! That’s lockdown...we may be doing most of what we would normally be doing....but it’s constantly there, irritating us!

Isn’t it funny, but once I realised this and gave myself permission to be nice and understanding to myself life got a bit better. If things were feeling bad I gave myself permission to shake things up and not do what I had decided I ‘should’ be doing and instead have a card game with the kids, take some time out for me (I discovered I am no longer used to having this many people at home) ....to just do something fun. Finally I wasn’t snapping at everyone (as much ☺). My Morse code has come a long way...the alphabet is learnt, now I just need to get my speed up and not allow myself to get stuck on one letter as another word or two pass by!



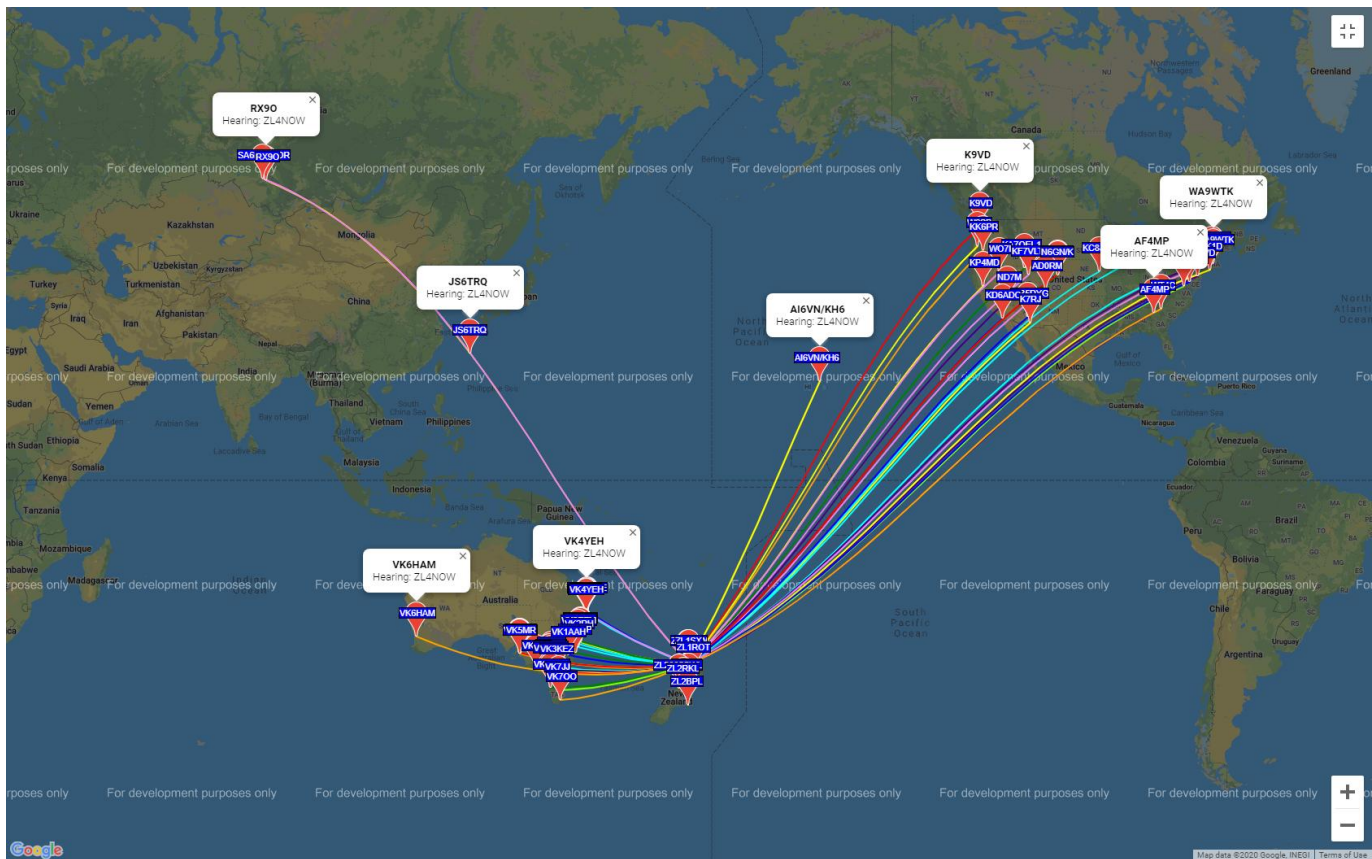
The day Level 3 arrived, a few of us jumped in the car and headed for a walk along our nearest beach! Boy that felt good, to feel the sea breeze, smell the salt water, feel the sand.....life was getting better! Here's hoping our freedoms will soon be returned to us and we will once again be able to gather together (I am actually looking forward to it!), to hug those needing a hug, and once again enjoy the company of others. But in the meantime, we are blessed to have our radios.....no risk of passing on the virus having a QSO ☺!

## 73 ... ZL1GIT

## SEEN OR HEARD AROUND THE SCENES

### 1 WATT MIGHT NOT GET YOU FAR –OR WILL IT

What do you get with 1 watt on a Ubitx home built radio, well it seem with a bit of a WSPR whisper, you can get quite a bit



Well done ZL4NOW

## ISOLATED ON WAIHEKE

*Received the following message from Charles, with whom I often speak on the Morning AM (Almost Moving) drive show, back in the days when we commuted to an office, and shows how island life works in a lockdown*

Life has been good over here on Waiheke in lockdown. We elected not to head to Rakino which in hindsight was a good idea. I have done quite a bit of HF, 80m, Nick net regularly on 3740, Geek net on Wednesdays, and regular skeds with Craig ZL1TBL in Dargaville and Simon ZL1THH in Blockhouse Bay. Sadly I left the 2m rig on Rakino so no 2m here.

I spent a couple of fun evenings chasing the W5KUB/17 balloon launched from the USA before it crashed over china. It was 10mW on 20m WSPR. I received it several times which was great. Apparently W5KUB/18 is due to be launched soon.

I have no idea if and when I will be returning to work at this stage, however, I am less than worried as I am spending the time finishing Study assignments. Anyway, go well, stay safe and I might catch you on 80 some time.

## A GOOD PLACE FOR MANUALS AND SOFTWARE

I was looking for software to re program a radio. I have Philips FM900 (VHF only) that I dug out of a box but is on silly frequencies and needs to be programmed to New Zealand repeaters etc.

I have just found this website and thought it may be of use to everyone that may be interested. The website has all sorts of info on it with mods, manuals etc and you do need to register to download anything but you can browse it first.

The site is <https://hamfiles.co.uk/> I have just found the software I need but not sure yet what interface is required to communicate with it. It may be of interest to someone. I know Kelvin wanted some info and I have just texted him the site for his alinco but not sure of his model.

Kind regards,  
73  
Rob

Thanks Rob, and here a couple others I use a lot – as well as chirp for programming, and it does Alinco

[http://www.hackersrussia.ru/index\\_eng.php](http://www.hackersrussia.ru/index_eng.php) Don't let the name scare you , this is hacking it to make it work on the Ham bands – The good type of hacking i COM Vertex, Motorola, .. lots to work through  
<http://foxtango.org/foxtango001.htm> Foxtango has a lot of yeasu information, and a great source of FT 101 info  
<http://www.ft101repair.com> Goes with the above

If you are looking to try your morse paddle/Straight Key on a computer to test out your sending skills, then may I also recommend the page: <http://www.slyware.com/doku.php?id=m1bwt:morse> for the howto for G4FON's software or [http://43hs031.hamsphere.net/?page\\_id=1062](http://43hs031.hamsphere.net/?page_id=1062) for the ECHOCW tools.

Or if you're really bored check out: <https://morsepower.blogspot.com/2016/08/cwcom-program-to-communicate-using.html> and send secure morse over the insecure internet - It's surprisingly popular



And if you're looking for antenna info, you can't beat <http://www.66pacific.com/calculators/default.aspx>

**The National Highway Safety Council has done extensive testing on a newly designed seat belt. Results show that accidents can be reduced by as much as 45% when the belt is properly installed. Correct installation is illustrated below:**



**AND FROM MIKE ZL4MDE:**

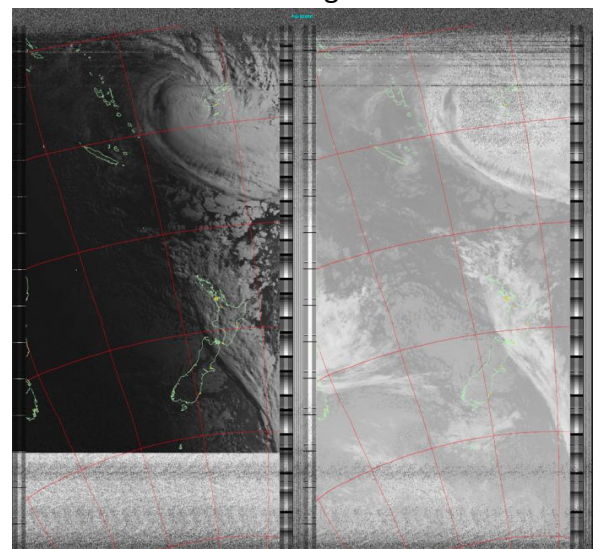
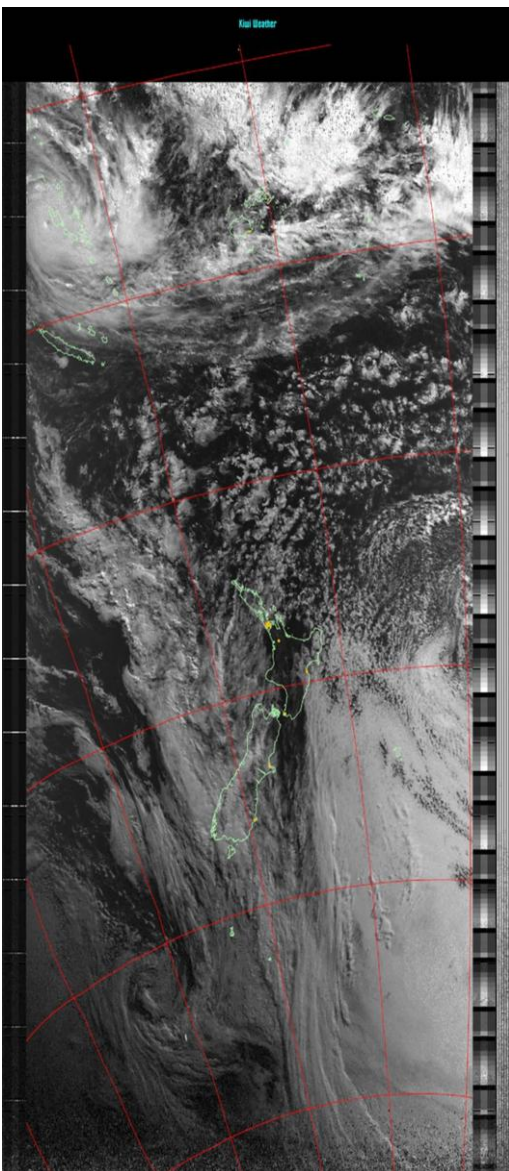
Still pretty much off air as my sore throat is getting worse and have been told by GP to rest my voice.

So have been doing some updates to my weather satellite capture code and website which is looking a lot better visually since I got some assistance from someone I was working with via Reddit and now Discord.

Not really up to working, but am doing some coding for my weather satellite stuff. And got an amazing image of Cyclone Harold (see below for info plus the image).

Could probably turn the content below into a newsletter article as a taster for the talk when I can give it.

Get well first  
Mike



## From the "Not my Job" Department!



### BACK IN THE DAY:

As we finalise details of the Papakura AREC operators, It's good to look back, and see how training used to be, Did you know they had skill levels of operating ability, It's not such a new idea.

#### Operating Ability

- GRADE 1** A fully trained operator capable of handling traffic both phone and C.W. at a minimum of 20wpm using correct AREC procedures. Operators at Field Search Headquarters and Net Control Stations should meet this requirement.
- GRADE 2** An operator capable of handling traffic both phone and C.W. at a rate of 12wpm using correct AREC procedures.
- GRADE 3** An operator capable of handling phone traffic only.
- GRADE 4** Any person not holding an Amateur Operator's Certificate or otherwise not competent to handle traffic, i.e. A person who is able to assist in fields other than traffic handling.

Life Hack:  
Easy way to keep track of what  
day it is



I didn't know it took 5 hours to  
get to Friday!?!





## SOME NETS – FOR WHEN YOU ARE LOOKING FOR COMPANY

Day	Time (Local)	Freq (MHz)	Group
Sunday	08:00	3.750	Southern Net
	09:00	3.700	Bch 10. Franklin.
	09:00	3.755	Bch 65. Papakura.
	16:00	7.125	SPAM Net (AM Mode)
	19:00	146.900	YL Net
	20:00	3.710	Bch 42. Titahi Bay
	21:30	3.595	Duran WIA Net.
	21:30	3.595	VK2WI
Monday	19:30	3.757	Bch 12. Hamilton
	20:00	3.540	CW Practice Net
	20:00	3.687	Br 80. Hibiscus Coast
	20:00	3.695	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	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
	20:30	3.696	ZL10A
	20:30	3.666	LF Net ZL2CA
	20:00	3.690	ZL QRP SSB Net
Friday	20:00	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
	17:30	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

This is designed to be a living list, Please update whenever you are able:

Also: Calling Frequencies:	Daily	Sunset-Sunrise	3580 USB	NZ FSQCall
Courtesy of Murray ZL1BPU	Daily	Sunrise-Sunset	7105 USB	NZ FSQCall
	Daily	24/7	7104 USB	International FSQCall

I'm told the last of these sees some amazing DX, especially around sunset.

**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.gsl.net/zl1vk>  
**Club email:** [zl1vk.club@gmail.com](mailto:zl1vk.club@gmail.com)

**Elected Officers**

<b>President</b>	ZL1NUX	Gavin Denby	Ph 09 299 3415	021 1046946
<b>Vice President</b>	ZL1BNQ	Richard Gamble	Ph 09 5371238	021 729270
<b>Secretary</b>	ZL1AOX	Ian Ashley	Ph 09 2981810	021 1981810
<b>Treasurer</b>	ZL1MR	David Wilkins	Ph 09 2999346	021 1857903
<b>Committee</b>	ZL1RJS	Rob Stokes	Ph 09 2961152	021 307005
	ZL1IRC	Ian Clifford	Ph	021 8248400
	ZL1ASN	Rolly Adams	Ph 09 2966107	021 0427760
	ZL1DK	David Karrasch	Ph 09 296 8264	021 560180
	ZL1RIC	Ricky Hodge		021 666421
<b>AREC Section Leader</b>	ZL1BNQ	Richard Gamble	Ph 09 5371238	021 729270
<b>CD Liaison</b>	ZL1AOX	Ian Ashley	Ph 09 2981810	021 1981810
<b>Newsletter Editor</b>	ZL1NUX	Gavin Denby	Ph 09 299 3415	021 459 192
<b>Hall Custodian</b>	ZL1AOX	Ian Ashley	Ph 09 2981810	021 1981810
<b>Newsletter.</b>	Contact: <a href="mailto:zl1nux@outlook.com">zl1nux@outlook.com</a>			

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

**Meetings**

General Meetings are held at the Club rooms on the 1st Wednesday of each month, starting at 7.30pm. 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 3rd Wednesday of each month at 7.30pm, unless advised.

Activity Nights are held on the 2nd Wednesday starting at 7.30pm.

AREC Meetings are on the 5th Wednesday night, also starting at 7.30pm

**AGM:** Held in November

**Subscription:** Full membership and newsletter \$20.00

Family Membership and newsletter \$30.00

Student or Country DX membership \$10.00

**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**

146.825 MHz Sunday at 8.30am. Controller ZL1NUX, Gavin Denby. If the repeater is not available, listen 146.475 simplex.

3.755 MHz Sunday at 9.00am. Controller ZL1BNQ Richard Gamble. (Linked to 146.675 & 438.775)