

The Official Newsletter of the

# PAPAKURA RADIO CLUB INC.

# October 2020



H good time to take your radios for some outdoor exercise





## CONTENTS ...

CONTENTS	2
MINUTES	3
CLUB ACTIVITY	4
UPCOMING ACTIVITIES	4
DX NEWS	5
CONTESTS	7
<b>RAMBLINGS FROM THE EDITOR'S DESK</b>	8
GET CYBER SMART	12
CYBER SMART WEEK 2020	14
FREE LINUX TRAINING	15
GEEKY NEWS	16
HEARD ABOUT THE SCENES	21
NETS LIST	23
(REACH OUT AND TOUCH SOMEONE)	
CLUB CONTACT INFORMATION	24

## This Month's Meetings:

With the Current Alert level at Level 2 and the likelihood of this being downgraded, we will be looking forward to re-opening the clubrooms and meeting again.

So our October Timetable will be:

Wednesday 7 October – General Meeting Wednesday 14 October – Project Night Wednesday 21 October – Committee Meeting Wednesday 28 October – Activity Night?

Looking forward to seeing some of you at the meetings

## Papakura Radio Club (Inc.)

Minutes of General Meeting September2020

## **DUE TO COVID-19 RESTRICTIONS**

## NO MEETING WAS HELD IN SEPTEMBER

## Notice of Papakura Radio Club (Inc.) Annual General Meeting 4<sup>th</sup> November 2020 at 20:00 At the Clubrooms, Wellington Park

**Business:** 

To receive reports Election of Officers Appointments Donations

Ian Ashley, ZL1AOX Secretary

These images are from the Sunday 2nd August 2020, when I helped out at the South Auckland Car Club Rallysprint. Not every location in the Maramarua forest is sheltered from the wind by trees. -I miss the Van already B

I have purchased a new spare thick jacket for future use, Must be time for summer to arrive. On a positive, the antenna, Pole and signals worked great, and the pole test stood up to the test.

We have another coming up, so if you're keen to learn, there is a chance to team up and get a chance to learn the ropes



## CLUB ACTIVITY:

## **UPCOMING PROJECTS:**

#### PROJECT AND ACTIVITY NIGHTS

We will be building some HF antennas for Drury, and planning some long wire 5 band antennas for Home Stealth use over upcoming project nights, these will include some experimental stealth and portable designs suitable for AREC, SOTA or POTA type activities, as well as general field or Home use.

We will also be discussing some satellite antenna designs for working off the ISS or other satellites.

And we have a possible DC power distribution project too



## **UPCOMING ACTIVITIES:**

WEDNESDAY 7 OCTOBER – GENERAL MEETING WEDNESDAY 14 OCTOBER – PROJECT NIGHT WEDNESDAY 21 OCTOBER – COMMITTEE MEETING WEDNESDAY 28 OCTOBER – ACTIVITY NIGHT

#### PLEASE LISTEN FOR UPDATES ON THE SUNDAY MORNING CLUB NETS (SEE LAST PAGE FOR FREQUENCIES AND TIMES)

## DX NEWS OCTOBER 2020

#### Antarctica base stations

#### **Mirny Station**

Alexander, RX3ABI is QRV as RI1ANM from Mirny Base, IOTA AN-016, until early 2021 while on work assignment.

Activity during his spare time on 40 and 20 meters using FT8.QSL via home call. Syowa Station

**The 61st Japanese Antarctic Research Expedition**'s over wintering team at the Syowa Station on East Ongul Island (AN-015), Antarctica includes Taka, JA1AGS and Hiro, JH7JCX.In their spare time they are QRV from the 8J1RL club station, with activity on 40, 30, 20,17 and 15 metres mainly FT8. They will be there until January 2021.QSL via the bureau to 8J1RL, or direct to JG2MLI.

## DX Calendar October 2020



#### SOME NOTABLE SPOTS

**JW4O Team** will be active from Svalbard, (*off the coast of Greenland in the Arctic Circle*) IOTA EU - 026, 8 - 12 October 2020.

They will operate on 80, 40, 20, 15, 10m, including activity in SAC SSB Contest, 10 - 11 October 2020.

#### VP9/N1SNB Bermuda

Jeff, VP9/N1SNB will be active from Bermuda, IOTA NA - 005, 21 - 26 October 2020. He will operate on HF Bands, including activity in CQ WW DX SSB Contest, 24 - 25 October 2020. Recent DX Spots VP9/N1SNB He will be in Single Operator All Band Low Power Category.

#### P40W Aruba

John, W2GD will be active as P40W from Aruba Island, IOTA SA - 036, 20 - 27 October 2020. He will operate on 160 - 10m, including activity in CQ WW DX SSB Contest.

#### JG8NQJ/JD1 Marcus Island Minami Tori Shima Islands (Philippines Sea)

Take, JG8NQJ will be active again as JG8NQJ/JD1 from Marcus Island, IOTA OC - 073, Minami Torishima, from 15 October 2020 to mid January 2021. He will operate on HF Bands CW.

#### **TX0T Tatakoto Atoll**

Cezar, VE3LYC inform dxnews.com, that he will be active as TX0T from Tatakoto Atoll, IOTA OC - 298, French Polynesia, 29 October - 5 November 2020.

Tatakoto is an atoll of about 14 km by 5 km, with a fully enclosed lagoon and lots of motu. The village has about 260 residents, and covers an area of about 1.5 x 0.5 km. It is the only counter of OC-298 IOTA reference, which still awaits its first operation after becoming a "New One" in June 2019.

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1960 -

#### A60EMM - Emirates Mars Mission

The United Arab Emirates has officially entered the global space exploration race.

This makes the UAE one of only nine countries working to explore Mars.

The probe will start its journey in 2020, and is scheduled to arrive to Mars by 2021, in celebration of the 50<sup>th</sup> anniversary of the union of the UAE. The planning, management and implementation of the probe project implemented by an Emirati team;

Ops for 2020: Help make history

- \* A60EMM/1, Op. A61M, QSL: A61BK \* A60EMM/2, Op. A61Q, QSL: EA7FTR \* A60EMM/3, Op. A61FK, QSL: A61BK \* A60EMM/4, Op. A61BK, QSL: A61BK \* A60EMM/5, Op. A61DD, QSL: A92AA \* A60EMM/6, Op. A61QQ, QSL: A61BK \* A60EMM/7, Op. A61FJ, QSL: LZ1YE \* A60EMM/8, Op. A61DL, QSL: A61BK
- \* A60EMM/9,Op. A61NN, QSL: Direct

https://www.mbrsc.ae/emirates-mars-mission





## **UPCOMING CONTESTS - OCTOBER 2020**

Date	Time	Date	a-Timo	Bands	Contest Name	Mode	Exchange	Sponsor's Website
1	1700	1	2000	2.5	SARL 80 Motor OSO Barty	Dh		
1	1700	1	2000	3.0 28	NRALL 10-Meter Activity Contest	CW Ph Dia	BS(T) 6-char grid square	nrau net/activity-contests
1	1900	1	2100	1.8-50	SKCC Sprint Europe	CW	RST, SPC, name, mbr or power	www.skccgroup.com
3	0600	4	0600	1.8-28	Oceania DX Contest, Phone	Ph	RS, serial	oceaniadxcontest.com
3	0600	4	1800	3.5-28	TRC DX Contest	CW Ph	RST, serial, "TRC" (if member)	trcdx.org/rules-trc-dx
3	0700	3	1000	3.5, 7	German Telegraphy Contest	CW	RST, LDK (if DL)	agcw.org/index.php/en
3	1200	4	1159	3.5-28	RTTYOps WW RTTY	Dig	RST, 4-digit year first licensed	rttyops.wordpress.com
3	1400	4	0200	1.8-28	Kussian WW Digital Contest		RST(Q), 2-Char oblast code (ITUA)	rarciub.ru/ustav-rtsrk
3	1600	4	1100	35.7	International HELL-Contest	Dia	BST serial	www.darc.de
3	1600	4	2200	1.8-28	California QSO Party	CW Ph	Serial, county or SPC	www.cgp.org/Rules.html
3	1700	3	2100	3.5-28	FISTS Fall Slow Speed Sprint	CW	RST, SPC, name, mbr or power	fistsna.org
3	1800	4	1800	All	SKCC QSO Party	CW	RST, SPC, name, 4-char grid	www.skccgroup.com
4	0500	4	2300	3.5-28	RSGB DX Contest	CW Ph	RS(T), serial	www.rsgbcc.org/hf
4	0600	4	0900	3.5	UBA ON Contest, SSB	Ph	RS, serial, ON section (if ON)	www.uba.be/en
4	1000	4	2359	7,14,21	Peanut Power QRP Sprint	CW Ph	RS(1), SPC, peanut nr or power	www.nogaqrp.org
6	0100	6	2030	3.5	ABS Sporton Sprint	CW	RST SPC nower	arsarn blogspot com
7	1700	7	2000	144	VHF-UHF FT8 Activity Contest	Dia	4-char grid square	ft8activity.eu/index.php/en
7	1900	7	2300	432	432 MHz Fall Sprint	CW Ph Dig	4-char grid square	svhfs.org
7	2000	7	2100	3.5	UKEICC 80-Meter Contest	Ph	6-char grid square	www.ukeicc.com
10	0000	10	2359	1.8-28	QRP ARCI Fall QSO Party	CW	RST, SPC, mbr or power	qrparci.org/contests
10	0000	11	1559	3.5-28	Makrothen RTTY Contest	Dig	4-char grid square	pl259.org/makrothen
10	0000	11	2359	50-1296	ARRL EME Contest	CW Ph Dig	Signal report	arrl.org/eme-contest
10	0300	11	2309	28 1.8-UHE	Neveda OSO Party	CW Ph Dig	BS(T) county or SPC	www.ten-ten.org
10	0600	11	0600	1.8-28	Oceania DX Contest CW	CW	BST serial	oceaniadxcontest com
10	0800	10	1400	1.0 20	Microwave Fall Sprint	CW Ph Dia	6-char grid square	syhfs.org
10	1200	11	1200	3.5-28	Scandinavian Activity Contest, SSB	Ph	RST, serial	www.sactest.net
10	1200	11	2359	1.8-50	SKCC Weekend Sprintathon	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
10	1500	11	0459	1.8-144	Arizona QSO Party	CW Ph Dig	RS(T), county or SPC	www.azqsoparty.org
10	1600	11	2200	1.8-UHF	Pennsylvania QSO Party	CW Ph	Serial, county or SPC	paqso.org
10	1/00	10	1900	3.5-28	FISTS Fall Unlimited Sprint	CW Ph Dia	RST, SPC, name, mbr or power	www.tistsna.org
10	1000	11	1000	1.0-144	PODXS 070 Club Great	GW FII DIg		www.suqsoparty.com
10	2000	11	2000	1.8	Pumpkin Sprint	Dig	RST, SPC	www.podxs070.com
11	0530	11	0800	3.5	UBA ON Contest, CW	CW	RST, serial, ON section (if ON)	www.uba.be/en
11	0800	11	1000	50	UBA ON Contest, 6 Meters	CW Ph	RS(T), serial, ON section (if ON)	www.uba.be/en
12	0000	12	0200	1.8-28	4 States QRP Second Sunday Sprint	CW Ph	RS(T), SPC, mbr or power	www.4sqrp.com
14	1700	14	0230	3.5-14	NAQCC CW Sprint	CW	RST, SPC, mbr or power	nagcc.info
14	1000	14	2000	432	ACCW Somi-Automatic Koy Evoning	CW	4-crial grid square	www.it8activity.eu
14	1900	14	2030	3.5	RSGB 80-Meter Autumn Series Data	Dia	RST serial	www.rsabcc.org/hf
17	0000	18	1600	50, 144	Araucaria World Wide VHF Contest	CW Ph	RS(T), 6-char grid square	avhfc.com/rules/en.pdf
17	0000	18	2359	3.5-28	JARTS WW RTTY Contest	Dig	RST, age of operator	jarts.jp/rules2020.html
17	0001	18	2359	28	10-10 International Fall Contest, CW	CW	Name, mbr or "0," SPC	www.ten-ten.org
17	1400	18	0200	All	New York QSO Party	CW Ph Dig	RS(T), county or SPC	www.nyqp.org
17	1500	18	1459	3.5-28	Worked All Germany Contest	CW Ph	RS(1), DOK code or "NM" or serial	WWW.darc.de
17	1500	18	1500	1.8	Slew Perry Toppand Challenge	CW	4-char grid square	www.kkn.net/stew
17	2000	17	2359	21-50	Feld Hell Sprint	Dig	RST, mbr, SPC, grid	sites.google.com/site/feldhellclub
17	2130	17	2230	7	Argentina National 7 MHz Contest	Ph	RS, year first licensed	lu4aa.org/wp/concurso-nacional-40m
18	0000	18	0200	14-21	Asia-Pacific Fall Sprint, CW	CW	RST, serial	jsfc.org/apsprint/aprule.txt
18	1400	21	0800	1.8-144	Classic Exchange, Phone	Ph	Name, RS, SPC, rig	classicexchange.org
18	1700	19	0100	1.8-144	Illinois QSO Party	Ph	RS(T), county or SPC	w9awe.org/ILQP.html
18	1900	18	2030	3.5	RSGB RoLo CW	CW	RS1, 6-char grid of previous QSO	www.rsgbcc.org/hf
10	2300	19	0100	1.8-28	APPL School Club Poundun	CW Ph	RST, SPC, mbr or power	grpcontest.com/pigrun
19	1800	20	0300	1 8-LIHE	Telephone Pioneers OSO Party	CW Ph Dig	BS(T) chapter (if member) name	www.tnrso.com
19	1900	19	2030	3.5	RSGB FT4 Contest Series	Dia	4-char grid square	www.rsgbcc.org/hf
24	0000	25	2359	1.8-28	CQ Worldwide DX Contest, SSB	Ph	RS, CQ zone	www.cqww.com/rules.htm
28	0000	28	0200	1.8-28	SKCC Sprint	CW	RST, SPC, name, mbr or power	www.skccgroup.com
28	2000	28	2100	3.5	UKEICC 80-Meter Contest	CW	6-char grid square	www.ukeicc.com
29	2000	29	2130	3.5	RSGB 80-Meter Autumn Series, SSB	Ph	RS, serial	www.rsgbcc.org/hf
30	1600	30	2359	3.5-14	Zomble Shuffle	CW Ph Dia	RST, SPC, Zomble nr/area code, name RST(O), object or partial	www.zianet.com/qrp
31	1200	1	1200	3 5-28	LIK/ELDX Contest SSR	Ph	BS serial district (if LIK/EI)	www.ukeicc.com
	1200		1200	0.0 20				

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** 

Check for updates and a downloadable PDF version online at www.arrl.org/contests.

1960 -

## **RAMBLINGS FROM THE EDITORS DESK**

It's October, so if you reading his, well done for getting through yet another lockdown. While we have, for now, every chance of returning to a somewhat normal life, the reality is that we will never be returning to what life was before the pandemic. The world has changed, and it will not be coming back, our normal is gone, and we as an organisation must start to plan for a new normal.

There is a statement, often attributed as a Chinese curse, which expresses itself as:

May you live in interesting times, or May you live in an interesting age, or May you live in exciting times.

There is, sadly, strong doubt that it is actually a Chinese curse, (or even has any actual origin in China at all). Research shows that, the earliest strong match for the quote appears in a March 1936 newspaper report in "The Yorkshire Post" of West Yorkshire, England. The expression was used in a speech by an influential British statesman Sir Austen Chamberlain, a British politician who said

"It is not so long ago that a member of the Diplomatic Body in London, who had spent some years of his service in China, told me that there was a "**Chinese curse**" which took the form of saying, '**May you live in interesting times.**' There is no doubt that the curse has fallen on us." "We move from one crisis to another. We suffer one disturbance and shock after another." This speech referring to Germany's violation of the Treaty of Locarno, has been repeated many times, including Arthur C Clarke 1965, John F Kennedy 1969, Time magazine 1995, and Hilary Clinton in 2003 but in every case, it could have been given any time in 2020 without surprise, and I'm sure it has been, After all, never let facts get in the way of a good story.

But regardless of the origin, we are most certainly living in interesting times, Times of uncertainty, Times where opinions, like the "quote" above, develop a life of their own and change in a moment, without analysis, or evidence, based on opinion and perception. An era where even science is unable to focus on facts alone, bending them to fit the "acceptable" model, One example of this is first images of a black hole event horizon, and while the evidence points to "Relativity" and "Newtonian physics" playing the ace against "quantum mechanics" the authors of the paper still hold out, that quantum mechanics will eventually figure out the discrepancy, which is probably a problem with the observation. I often wonder what Richard P Feynman (Quantum Physicist and inventor of Feynman diagrams, *still used to explain quantum particle interactions*) would say; perhaps his old quote would still stand "It doesn't matter how beautiful your theory is, it doesn't matter how smart you are. If it doesn't agree with experiment, it's wrong.



It doesn't matter how beautiful your theory is, it doesn't matter how smart you are. If it doesn't agree with experiment, it's wrong.

— Richard P. Feynman -

Or maybe he might use: "If you thought that science was certain - well, that is just an error on your part" or "Scientific knowledge is a body of statements of varying degrees of certainty -- some most unsure, some nearly sure, none absolutely certain."

And we live in a time, when we "follow the science" ... Or at least the "science" we like because "the science is settled" ... Interesting Times.

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It should of course not surprise you, that there is an election, or two, going on, (although some are sure it's already over, especially after the US president tested positive for covid-19), and as a result, there is a near constant stream of adverts, billboards, magazine articles, all telling me what I need to consider when voting, and No - I will not be giving advice, water issues, economy, jobs, carbon emissions, tax, education reform, health reform, centralisation, censorship of thought and speech, and of course the End of Life and Cannabis referendums. All of the "Experts" are in my daily mail, showing me why I should agree with them, But as someone recently reminded me:

#### No matter how you choose to vote, you will end up with a politician!

We will end up with an elected dictatorship, Empowered by a party with the least votes, who will decide how the country is run, after all, this is how MMP works. The tail wags the dog. And in three years we get to choose again, and still we will have no idea, what we will get after the votes are counted, or what we have voted for until they tell us that we gave them the "Mandate" ... Interesting Times!

October is also the time to consider our safety in a digital world. CERT NZ, the national Computer Emergency Response Team is a government body that most of us have never heard of, and they want us to realise the new digital word is not one we should take lightly

A CERT is an organisation that:

- receives cyber incident reports
- tracks cyber security incidents or attacks, and
- provides advice and alerts to its customers on how to respond and prevent further attacks.

The NZ Government announced an investment of \$22.2 million to set up a new national Computer Emergency Response Team (CERT) as part of Budget 2016. In establishing a CERT, New Zealand joins an international network of CERTs. This improves our access to information on potential or real-time cyberattacks, and helps us play our part in the global effort to improve cyber security.

CERT NZ's flagship annual awareness-raising campaign, Cyber Smart Week, will take place on 19 - 23 October 2020. The primary goal of Cyber Smart Week is to increase the cyber resilience of all New Zealanders so they're less vulnerable to cyber attacks.

More details about cyber smart week is included in this newsletter, as our radio equipment gets more and more connected, and we use more and more IT in our hobby, we are more exposed to attacks from hackers. The more we connect the with others, the more isolated we become in order to stay safe ... Interesting Times

Spring has sprung, and for those who managed to get their hands on the first batch of Icom 705 radios, it's time for QRP fun.

As Solar Cycle 25 has now officially begun (you can only confirm it, after it has started apparently) the HF propagation, especially on the higher frequencies is only going to keep improving, the options to get out and about, even if it's only with 5 watts (*But then again ZC1 had a massive 2.5 watt power output between 2-6 MHZ*). With the limits on travelling, let's hope that our parks provide us venues to bring ourselves and our hobby, out of the shack and into the sun, interesting toys for ... interesting times.



Naturally Politics and Covid-19 have been the main features of 2020, but there have also been many new ham products into the market, and almost all have focussed on some form of either digital or portable.

Even the digital hotspots all seem to run on battery, and the growth of field based radios, has added many new features, with the waterfall, and digital modes (digital modulation), PC (battery powered Laptops) all seem to interconnect to open new doors for communications... Except maybe the antenna; the portable antenna is still a wire in a tree, or a loaded vertical, or a loaded dipole. Occasionally a Magnetic loop makes an appearance, but is the antenna at the epitome of its evolution, or is there still room to improve the design?

HF radio, from an RF perspective has little changed from the days of valves, but the control, stability and portability (and power levels) have all had a massive upgrade, The antenna is unlikely to be redesigned and suddenly become a super high performance unit, but with all of the modern manufacturing methods, and different designs, why is it always a compromise?

Can't we have a lightweight portable broad-band, easy to erect, easy to re-tune field antenna that stows quickly. I know that SOTA operators will show a dipole wire with quick connectors and a fibreglass slip together pole that works great on a mountain, but try to put that up in a park, and don't ask about the cost of the pole.



Loaded verticals will get you on the air, and with enough fiddling can tune up on a single frequency, but are naturally inefficient and the amount of gear you carry, and them to get them the into the air, set-up and tuned, makes you feel like you have to stay a week, just to get any benefit. And if you commercially price high end coils like Wolf River, or Budi-Poles, you get a nose bleed, even before they add freight. Even the Chinese clones are at prices that match some of the HF radios.







With the camper, I have some good options, and with a good vertical, and Auto-Tuner and some counterpoises, I can get on air, But it's a lot to put out, and not everyone appreciates the wire, and the support ropes everywhere.

But with a bit more work, I think I can lower the visual impact, but still get the results of HF from wherever ... Especially if the location is low noise, and away from other campervans that are packed with modern electronics.

And give me 100 watts - Life's too short for QRP

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But I also need a car boot carried, portable, quick build HF antenna, and, sadly, I have had to look at self build, partly cost, and partly as ... Isn't that what we do? We build and experiment. We fail, and occasionally we get a result, and then we try the next design.

Part of the Ham mentality is we do it ... because it's hard, and because it's not normal. But more than that, who really wants to be "Average"

The average person does not carry their hobby to the park, just their phone, Latte, facebook and instagram, in the hope of getting a like.

The average person would rather watch Netflix or you-tube on TV then interact with someone, or make a real friend, or try something new.

It has been said, The Gods play dice with the universe, but Fate plays chess, The average person is a like a pawn in this chess game, and it's never a good idea to choose chess ... if you're a pawn. Anything else has a fighting chance, except the average pawn.

In these interesting times we need exceptional people, not average pawns. Being average is perhaps the one thing that still scares the hell out of me. I'd rather be anything but average.

Not average is doing what we have never done before, it's new and it's interesting. So while other may see a curse of exceptional times, I see that the world is never going to again be what it was, in this new world we need new ideas, we need to try new things, and re-discover some old ones. And since we live interesting times, let's be the interesting people develop some interesting new gear, and go to interesting new places, in our own backyard, and live interesting and not average lives.

Let's live like there's no tomorrow, and make the most of the day, and be exceptional. So excuse me while I go back to my clip together tuned vertical self supporting hollow tube antenna design, Now what to do about those radials?

Oh and for the next pandemic, Can we have Zombies? ... I trained for Zombies, I want my Zombies!

73 & carpe diem

ZL1NUX



## GET CYBER SMART

#### A COMPUTER CAN GUESS MORE THAN 100,000,000 PASSWORDS PER SECOND. STILL THINK YOURS IS SECURE?

Passwords have been used for thousands of years as a means of identifying ourselves to others and in more recent times, to computers. It's a simple concept – a shared piece of information, kept secret between individuals and used to "prove" identity.

Passwords in an IT context emerged in the 1960s with mainframe computers – large centrally operated computers with remote "terminals" for user access. They're now used for everything from the PIN we enter at an ATM, to logging in to our computers and various websites.

But why do we need to "prove" our identity to the systems we access? And why are passwords so hard to get right?

Until relatively recently, a good password might have been a word or phrase of as little as six to eight characters. But we now have minimum length guidelines. This is because of "entropy".

When talking about passwords, entropy is the measure of predictability. The math behind this isn't complex, If a one-character password only contains one lowercase letter, there are only 26 possible passwords ("a" to "z"). By including uppercase letters, we increase our password space to 52 potential passwords.

The password space continues to expand as the length is increased and other character types are added. The more complex the password, the more attempts needed to guess it. However, the problem with depending on password complexity is that computers are highly efficient at repeating tasks – including guessing passwords.

Last year, a record was set for a computer trying to generate every conceivable password. It achieved a rate faster than 100,000,000,000 guesses per second. By leveraging this computing power, cyber criminals can hack into systems by bombarding them with as many password combinations as possible, in a process called brute force attacks.

And with cloud-based technology, guessing an eight-character password can be achieved in as little as 12 minutes and cost as little as US\$25.

The theft and selling of passwords lists is now so common, a <u>dedicated website</u> — haveibeenpwned.com — is available to help users check if their accounts are "in the wild". This has grown to include more than 10 billion account details.

If your email address is listed on this site you should definitely change the detected password, as well as on any other sites for which you use the same credentials.

#### Is more complexity the solution?

You would think with so many password breaches occurring daily, we would have improved our password selection practices. Unfortunately, last year's annual SplashData password survey has shown little change over five years.

Rank	2015	2016	2017	2018	2019
1	123456	123456	123456	123456	123456
2	password	password	password	password	123456789
3	12345678	12345	12345678	123456789	qwerty
4	qwerty	12345678	qwerty	12345678	password
5	12345	football	12345	12345	1234567
6	123456789	qwerty	123456789	111111	12345678
7	football	1234567890	letmein	1234567	12345
8	1234	1234567	1234567	sunshine	iloveyou
9	1234567	princess	football	qwerty	111111
10	baseball	1234	iloveyou	iloveyou	123123

The 2019 annual SplashData password survey revealed the most common passwords from 2015 to 2019.

As computing capabilities increase, the solution would appear to be increased complexity. But as humans, we are not skilled at (nor motivated to) remember highly complex passwords. We've also passed the point where we use only two or three systems needing a password. It's now common to access numerous sites, with each requiring a password (often of varying length and complexity). A recent survey suggests there are, on average, 70-80 passwords per person.

The good news is there are tools to address these issues. Most computers now support password storage in either the operating system or the web browser, usually with the option to share stored information across multiple devices. Examples include Apple's iCloud Keychain and the ability to save passwords in Internet Explorer, Chrome and Firefox (although less reliable).

<u>Password managers</u> such as KeePassXC can help users generate long, complex passwords and store them in a secure location for when they're needed. While this location still needs to be protected (usually with a long "master password"), using a password manager lets you have a unique, complex password for every website you visit. This won't prevent a password from being stolen from a vulnerable website. But if it is stolen, you won't have to worry about changing the same password on all your other sites.

There are of course vulnerabilities in these solutions too, but perhaps that's a story for another day.

#### Authors

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#### **Disclosure statement**

The authors do not work for, consult, own shares in or receive funding from any company or organisation that would benefit from this article, and have disclosed no relevant affiliations beyond their academic appointment.

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#### Cyber Smart Week 2020 – Step up your cyber defence

Did you know CERT NZ (a NZ Government Organisation) will be holding their annual awareness Cyber Smart Week from 19 – 23 October 2020 this year?

The primary goal of Cyber Smart Week is to increase the cyber resilience of all New Zealanders so they are less vulnerable to cyber-attacks.

Read more about each By Clicking the link below – or going to CERT.GOVT.NZ

Cyber Smart Week 2020

Cert NZ

Cyber attacks are becoming more common, and anyone can be targeted. It may come as a surprise, but your personal information is highly valuable to attackers. Yes, cyber baddies are interested in getting your stuff – whether it's to steal your money or your identity, or just cause mayhem in your online world. As with many risks, prevention is the best approach, which is why we're encouraging all New Zealanders to increase their cyber resilience so they're less vulnerable to attacks.

So, step up your cyber defence by taking some simple steps – they're known to improve cyber security and are pretty straightforward to implement. – And they are all free

## FREE LINUX COURSE HAS ALREADY TAUGHT ONE MILLION PEOPLE

Learning about the Linux operating system and the various <u>Linux distros</u> available is a great way for young programmers to get a start in the industry and many have done so using the Linux Foundation's <u>Introduction</u> to <u>Linux</u> training course.

In fact, the Linux Foundation recently announced that its training course, which is currently in its sixth edition, has surpassed one million enrollments.

The course itself helps students develop a good working knowledge of Linux using both the graphical interface and command line across the major Linux distribution families. The Linux Foundation's free course is a popular first step for individuals interested in pursuing a career in IT as no prior knowledge or experience is required.

With Linux being the operating system of the raspberry Pi and other embedded devices, it's a good option for hams that might be thinking of hotspots, All-star nodes, or maybe taking the plunge into running a Linux desktop computer or Laptop.

The course is designed for experienced computer users who have limited or no previous exposure to Linux, whether they are working in an individual or enterprise environment

It explores the various tools and techniques commonly used by Linux system administrators and end users to achieve their day-to-day work in a Linux environment. You will gain a good working knowledge of Linux and learn how to navigate through major Linux distributions, system configurations and graphical interface of Linux, basic command line operations, common applications of Linux, and more.

Upon completion of the training you should have a good working knowledge of Linux, from both a graphical and command line perspective, allowing you to easily navigate through any of the major Linux distributions. You will be able to continue your progress as a user, system administrator or developer using the acquired skill set.

Its free, Online 60 Hours of material Video content Hands on Labs and assignments and you have 14 weeks of access to the materials – Might be something to do in the next lockdown.

## **INTRODUCTION TO LINUX (LFS101)** – LINK



## **GEEKY RADIO NEWS**

#### THE EVENT HORIZON TELESCOPE'S SNAPSHOT OF M87'S BLACK HOLE ONCE **AGAIN SHOWS EINSTEIN WAS RIGHT**



When the first-ever image of a black hole was released in April 2019, it marked a powerful confirmation of Albert Einstein's theory of gravity, or general relativity.

The theory not only describes the way matter warps spacetime, but it also predicts the very existence of black holes, including the size of the shadow cast by a black hole on the bright disk of material that swirls around some of the dense objects. That iconic image, of the supermassive black hole at the center of the galaxy M87 about 55 million light-years away, showed that the shadow closely matched general relativity's predictions of its size. In other words, Einstein was right — again.

Generally, physicists think of general relativity as a set of corrections or add-ons to Isaac Newton's theory of gravity. General relativity predicts what those add-ons should be. If measurements of how gravity works in the universe deviate from those predictions, then physicists know general relativity is not the full story. The more add-ons or factors added to a test, the more confidence there is in a result.

In weak gravitational fields, like within the solar system, physicists can test whether "first-order" additions to Newton's equations are consistent with general relativity or not. These additions are related to things like how light and mass travel in a warped spacetime, or how gravity makes time flow more slowly.

But it takes a strong gravitational field, like the one around M87's black hole, to kick the tests up a notch.

The new result is slightly disappointing for the physicists hoping to find cracks in Einstein's theory. Finding a deviation from general relativity could point the way to new physics. Or it could help unite general relativity, the physics of the very large, and quantum mechanics, the leading theory that describes the physics of the very small, like subatomic particles and atoms (SN: 3/30/20). The fact that general relativity

	Papakura Radio Club Inc.	Page 16	October 2020
1960			→ 2020

still refuses to bend is "worrying for those of us who are old enough that we were hoping to get an answer in our lifetime," says EHT team member Dimitrios Psaltis of the University of Arizona in Tucson.

But there is some hope that general relativity might still fail around black holes. The new study makes the box of possible ways for the theory to break down smaller, "but we haven't made it infinitesimal," Medeiros says. The study is "a proof of concept to show that the EHT could do this… But it's really just step one of many."

Future observations from the EHT will make for even more precise tests of general relativity, she says, especially with yet-to-be-released images of Sgr A\*, the black hole at the center of the Milky Way. With much more precise measurements of Sgr A\*'s mass than any other supermassive black hole, that image may make the possible box around the theory even smaller — or blow it wide open.



No amount of experimentation can ever prove me right; a single experiment can prove me wrong.

(Albert Einstein)

Never before has a generation so diligently recorded themselves accomplishing so little.



#### A NEW THERMOMETER MEASURES TEMPERATURE WITH SOUND



The device picks up sound waves made by hot objects

A new device eavesdrops on objects to take their temperatures.

Hot objects not only glow, but also softly hum. The hum is generated by the rapid jitters of particles that make up the hot object. If human ears were keen enough to hear this noise, "it would sound like radio static," says Tom Purdy of the University of Pittsburgh. "The hotter [an object] gets, the louder it gets."

Purdy, along with Robinjeet Singh of the University of Maryland in College Park, created an acoustic thermometer that senses the intensity of heat-generated sound emanating from nearby objects. The heart of the device is a one-square-millimeter sheet of silicon nitride. That sheet is suspended within a window cut in the center of a silicon chip, which transmits sound waves better than air.

In experiments, the physicists deposited blobs of an epoxy material on the chip's surface around the silicon nitride sheet. When heated with a laser, each epoxy blob gave off sound waves that rippled through the chip to the sheet, causing the sheet to vibrate. The hotter the epoxy blob, the stronger its sound waves, and the more intense the silicon nitride's vibrations. Bouncing a laser beam off the sheet and measuring the beam's angle of reflection allowed the researchers to track the sheet's motion, and therefore the temperatures of the epoxy blobs, Singh and Purdy report in the Sept. 18 *Physical Review Letters*.

So maybe this is how mum's always know when their kids have a temperature, Maybe they hear it, in the same way they small a sore throat

#### TINY, MAGNETICALLY CONTROLLED ROBOTS COAX NERVE CELLS TO GROW CONNECTIONS

New research could point to additional treatments for people with nerve injuries



Tiny robots can operate as nerve cell connectors, bridging gaps between two distinct groups of cells. These microscopic patches may lead to more sophisticated ways to grow networks of nerve cells in the laboratory, and perhaps even illuminate ways to repair severed nerve cells in people, researchers report September 25 in *Science Advances*.

Engineers Eunhee Kim and Hongsoo Choi, both of the Daegu Gyeongbuk Institute of Science and Technology in South Korea, and colleagues first built rectangular robots that were 300 micrometers long. Slender horizontal grooves, about the width of nerve cells' tendrils that exchange messages with other cells, lined the top.

These microrobots were fertile ground for rat nerve cells, the researchers found. As the cells grew, their message-sending axons and message-receiving dendrites neatly followed the robots' lined grooves.

Once laden with about 100 nerve cells, a microrobot's objective was to nestle between two separate islands of nerve cells, grown on glass plates, and bridge the gap. Rotating magnetic fields sent the microrobot tumbling pell-mell toward its target. When the microrobot drew close, researchers used a steadier magnetic field to align the bot between the two clusters of cells.



A microrobot carrying nerve cells (centre bridge) connects two separate clusters of nerve cells (cell bodies are coloured green in this micrograph, nuclei are blue), enabling those clusters to communicate

Creating these neural bridges might help researchers design better replicas of complex nerve cell networks in the brain. Similar systems could also lead to new ways of studying nerve cell growth, experiments that could ultimately point to therapies for people with nerve injuries. Such precision building could also be useful in computing, allowing scientists to design and build biological computers with nerve cells.



## Arthur C. Clarke's Third Law

"Any sufficiently advanced technology is indistinguishable from magic."

## SEEN OR HEARD AROUND THE SCENES

#### HI GUÝS

I am looking for nine 5km operators for the City of Auckland Car Rally, one day, Saturday 14<sup>th</sup> November. This is in place of Rally Whangarei and RNZ that got cancelled.

There are three stages that we need to cover, Kaipara Hills, Puhoi and Riverhead, all run twice. There is no safety points in the Jack's Ridge stages run later in the day.

HQ will be at the Kumeu Showgrounds, it is planned to run the VHF STSP 6825 setup at the high point on Moirs's Hill.

As you will see I have asked all the previously interested operators so some will need to team up as I only need nine teams, good chance to take out new operators.

First stage starts at Kaipara Hills 08.38, the last stage Riverhead starts 16.38.

Can you please confirm that you are available and I will make up the teams.

#### Cheers RICHARD GAMBLE ZL1BNQ

#### FROM THE NZ QRPERS GROUP.

We use 3.690 MHz for our daily calling frequency and our Thursday night Net. 3.690 MHz is an IARU dedicated QRP frequency and is in the Region 3 Band plan. Can ZL hams please consider this, and at the very least, check the frequency is not in use before transmitting.

Wayne Jacobsen ZL2OZ NZ QRPers Group

#### SOLAR ORBITER'S FIRST SCIENCE DATA SHOWS THE SUN AT ITS QUIETEST

The European Space Agency's Solar Orbiter spacecraft launched in February 2020 on its mission to study to sun and it began collecting science data in June. Now, three of its ten instruments have released their first tranche of data, revealing the state of the sun in a 'quiet' phase.

Who would have Thought it??

But seriously, Good to have another solar observatory up and working, and looking forward to the data from the sun flyby from December to February, A lot done, a lot more to do and so much to learn about the star that rules our life, and determines so much of our hobby.

#### HERE'S HOPING 2025 IS AWESOME - NOT DESPERATELY SEEKING SUNSPOTS

#### END OF FINANCIAL YEAR.

As we close the end of the financial year, and prepare for the Annual General Meeting in November, it's also time to consider renewing your financial membership of the club, Our fees are very good value for money, and while not vital to the continuity of the club, they do help us to prove that we have active members. So do think of your contribution to the club, both financial and involving yourself in the life and activities.

And feel free to suggest some activities that we can do

#### CHRISTMAS FUNCTION:

No I'm not wanting to become one of those stores that have started advertising Christmas sales, just a reminder that Papakura will be hosting the combined Christmas Dinner with Franklin, The committee has started looking into preparations, and with it being a local venue, maybe you should plan to attend for good food, good company and, hopefully, ending the year on a high note.

(Many probably wish we could put the trees up already)

# Me waiting for 2020 to be over already





It do be like that



SOME NETS - FO	OR WHEN YOU	<b>ARE LOOKING</b>	i 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	146.625	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
updated	20:00	3.605	Br 80. Hibiscus Coast
updated	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	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: <u>http://www.qsl.net/zl1vk</u> Club email: zl1vk.club@gmail.com

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

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

Flocted Officers

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**

146.900 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)

Papakura	Radio	Club	Inc.
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