The Official Newsletter of the

PAPAKURA RADIO CLUB INC.

December 2021

2021 – Time to pause and catch your breath

CONTENTS ...

This Month's Meetings:

All face to face meetings are cancelled until we return to level 2 or lower

Meetings for November.

Meetings will only occur at alert level 2 or lower. We cannot have social meetings at level 4 or 3. Traffic light rules are not yet known, but at Red meetings will be unlikely due to distancing requirements.

Wed 1   December – Teams Meeting 7:30pm – Zl1SWW will introduce Ki-Cad PCB software
Wed 8   December – Listening on 690 repeater
Wed 15 December – Committee Meeting –A Virtual Meeting may be scheduled
Wed 22 December – Listening on 690 repeater
Wed 29 December – No activity is planned – Enjoy the Holiday

CLUB ACTIVITY:

Due to the government requirement for physical distancing, while in the Red "Traffic Light" system at all projects and training, will be unable to proceed.

But take the time to read the shout out to Ian later in this edition

UPCOMING PROJECTS:

PROJECT AND ACTIVITY NIGHTS

On Hold until further notice – Like most of Life

AREC training will be rescheduled on return to a condition allowing physical meetings

UPCOMING ACTIVITIES:

(ALERT LEVELS PERMITTING)
WED 1   NOVEMBER – VIRTUAL GENERAL MEETING – TEAMS
WED 8   NOVEMBER – INFORMAL NET 690 REPEATER
WED 15 NOVEMBER – VIRTUAL COMMITTEE MEETING
WED 22 NOVEMBER – INFORMAL NET 690 REPEATER
WED 29 NOVEMBER - INFORMAL NET 690 REPEATER

AS THESE ARE SUBJECT TO CHANGE - PLEASE LISTEN FOR UPDATES ON THE SUNDAY MORNING CLUB NETS. (SEE BACK PAGE FOR FREQUENCIES AND TIMES)

DX Calendar December 2021

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
															S21DX (16–21)															
XT2AW (01–19)																														
AU2JCB India (01–03)					HR5/F2JD (08–31)																									
PJ7/G4JEC (01–03)																														
5H3WX (01–06)																														
C6AQQ (01–07)																														
TZ1CE (01–08)																														
C6AGU (01–10)																														
TO9W (01–10)																														
Z22O Z21A (02–14)																														
5Z4/HB9DSP (02–15)																														
JG8NQJ/JD1 (01–14)																														
A52CC (01–19)																														
6Y6Y (01–31)																														

Featured:

HR5/F2JD Honduras

Gerard, F2JD will be again active from Honduras, 8 December 2021 - 5 April 2022, as HR5/F2JD.
He will operate on HF Bands CW, SSB, Digital modes.

6Y6Y Jamaica

Lester, W8YCM will be active from Jamaica, IOTA NA - 097, starting 28 November 2021, as 6Y6Y.
He will operate on HF Bands.

Click on the link (CTRL + Click for some PDF readers) in the PDF versions for information on the Expeditions

DXnews.com — More than just DX News

Or check them out at DX News.com

CONTESTS DECEMBER 2021

	Date-Time		Date-Time	Bands	Contest Name	Mode	Exchange	Sponsor's Website
1	0230	1	0300	1.8-21	Phone Weekly Test – Fray	Ph	Name, SPC	www.perluma.com/Phone_Fray_Contest_Rules.pdf
1	1300	1	1400	1.8-28	CWops Mini-CWT Test	CW	Name, mbr or SPC or "CWA"	cwops.org
1	1700	1	2000	144	VHF-UHF FT8 Activity Contest	Dig	4-char grid square	ft8activity.eu/index.php/en
1	1900	1	2000	1.8-28	CWops Mini-CWT Test	CW	Name, mbr or SPC or "CWA"	cwops.org
2	0000	2	0300	1.8	QRP ARCI Top Band Sprint	CW	RST, SPC, mbr or power	qrparci.org/contest
2	0000	3	0300	7	Walk for the Bacon QRP Contest	CW	Max 13 WPM; RST, SPC, name, mbr or power	qrpcontest.com/pigwalk40
2	0300	2	0400	1.8-28	CWops Mini-CWT Test	CW	Name, mbr or SPC or "CWA"	cwops.org
2	0700	2	0800	1.8-28	CWops Mini-CWT Test	CW	Name, mbr or SPC or "CWA"	cwops.org
2	1700	2	1900	3.5-14	RTTYops Weeksprint	Dig	Other station's call, your call, serial, name	rttyops.com
2	1800	2	2200	28	NRAU 10-Meter Activity Contest	CW Ph Dig	RS(T), 6-char grid square	nrrlcontest.no
2	2000	2	2200	1.8-50	SKCC Sprint Europe	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
3	0145	3	0215	1.8-21	NCCC RTTY Sprint	Dig	Serial, name, QTH	www.ncccsprint.com
3	0230	3	0300	1.8-21	NCCC Sprint	CW	Serial, name, QTH	www.ncccsprint.com
3	2000	3	2100	1.8-28	K1USN Slow Speed Test	CW	Max 13 WPM; RST, SPC, name, mbr or power	www.k1usn.com/sst.html
3	2200	5	1559	1.8	ARRL 160-Meter Contest	CW	W/VE: RST, ARRL/RAC Section; DX: RST	www.arrl.org/160-meter
4	0500	5	1000	3.5-28	UFT Meeting	CW	RST, mbr or "NM"	uft.net/les-rencontres-uft
4	0600	4	0800	7, 14	Wake-Up! QRP Sprint	CW	RST, serial, suffix of previous QSO	qrp.ru/contest/wakeup
4	1200	5	1159	3.5-28	PRO CW Contest	CW	RST, serial, "/M" if member	www.procontestclub.ro
4	1300	4	1330	144	Two-Meter Classic Sprint	CW Ph	Serial, 4-char grid square	fwrc.info
4	1800	5	2359	3.5-28	FT Roundup	Dig	W/VE: RST, state/province; DX: RST, serial	www.rttycontesting.com
6	0000	6	0100	1.8-28	K1USN Slow Speed Test	CW	Max 20 WPM; name, SPC	www.k1usn.com/sst.html
7	0100	7	0159	1.8-50	Worldwide Sideband Activity Contest	Ph	RS, age group (OM, YL, Youth)	wwsac.com/rules.html
7	0200	7	0400	3.5-28	ARS Spartan Sprint	CW	RST, SPC, power	arsqrp.blogspot.com
7	1700	7	1900	3.5-14	RTTYops Weeksprint	Dig	Other station's call, your call, serial, name	rttyops.com
8	0130	8	0330	3.5-14	NAQCC CW Sprint	CW	RST, SPC, mbr or power	naqcc.info
8	1700	8	2000	432	VHF-UHF FT8 Activity Contest	Dig	4-char grid square	ft8activity.eu/index.php/en
11	0000	12	2359	28	ARRL 10-Meter Contest	CW Ph	W/VE/XE: RST, state/province; DX: RST, serial	www.arrl.org/10-meter
11	0000	13	2359	1.8-7	PODXS 070 Club Low Band Sprint	Dig	RST, SPC	www.podxs070.com
11	0600	12	1800	3.5-28	TRC Digi Contest	Dig	RST, serial, "TRC" if membr	trcdx.org/rules-trc-digi
11	1200	12	2359	1.8-50	SKCC Weekend Sprintathon	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
11	1300	12	1300	3.5, 7	ARI 40/80 Contest	CW Ph Dig	RS(T), 2-letter province code	www.ari.it/en/contest-hf
11	1600	12	1559	3.5-28	International Naval Contest	CW Ph	RS(T), mbr (and club) or serial	www.marinefunker.at
12	2000	12	2300	1.8-28	QRP ARCI Holiday Spirits Homebrew	CW	RST, SPC, mbr or power	qrparci.org/contest
12	2100	12	2259	14	CQC Great Colorado Snowshoe Run	CW	RST, SPC	www.coloradoqrpclub.org/contests
13	0100	13	0300	1.8-28	4 States QRP Second Sunday Sprint	CW Ph	RS(T), SPC, mbr or power	www.4sqrp.com
16	0000	17	0300	14	Walk for the Bacon QRP Contest	CW	Max 13 WPM; RST, SPC, name, mbr or power	qrpcontest.com/pigwalk20
17	1600	17	1700	3.5, 7	AGB-Party Contest	CW Ph Dig	RST, serial, mbr (if member)	ev5agb.com/contest/agb_party.htm
17	1800	17	2200	1.8	Russian 160-Meter Contest	CW Ph	RS(T), oblast code or serial	www.topband.ru/rules.htm
18	0000	18	2359	1.8-50	Feld Hell Sprint	Dig	RST, mbr, SPC, grid	sites.google.com/site/feldhellclub
18	0000	18	2359	3.5-28	OK DX RTTY Contest	Dig	RST, CQ Zone	okrtty.crk.cz
18	0000	18	2359	1.8-144	RAC Winter Contest	CW Ph	VE: RS(T), province/territory; Non-VE: RS(T) + serial	www.rac.ca/contesting
18	0000	19	2359	50-1296	ARRL EME Contest	CW Ph Dig	Signal report	www.arrl.org/eme-contest
18	1200	19	1159	3.5-28	Padang DX Contest	Ph	RS, serial	padangdxc.com/rules
18	1400	19	1400	1.8-28	Croatian CW Contest	CW	RST, serial	9acw.org/index.php/rules
18	1500	19	1500	1.8	Stew Perry Topband Challenge	CW	4-char grid square	www.kkn.net/stew
19	1800	19	2359	3.5-28	ARRL Rookie Roundup, CW	CW	Name, 2-digit year first licensed, SPC	www.arrl.org/rookie-roundup
19	2300	20	0100	1.8-28	Run for the Bacon QRP Contest	CW	RST, SPC, mbr or power	qrpcontest.com/pigrun
22	0000	22	0200	1.8-50	SKCC Sprint	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
22	0130	22	0330	3.5-14	NAQCC CW Sprint	CW	RST, SPC, mbr or power	naqcc.info
25	1200	26	1159	3.5-28	Gedebage CW Contest	CW	RST, serial	olkb.or.id
26	0000	26	1159	3.5-28	RAEM Contest	CW	Serial, latitude and longitude (e.g. 57N 95W)	raem.srr.ru/rules
26	0830	26	1059	3.5, 7	DARC Christmas Contest	CW Ph	RS(T), DOK (or "NM" if not DARC member) or serial	darc.de/der-club/referate/conteste
30	1200	30	2359	3.5-28	YOTA Contest	CW Ph	Age (or average age for multi-ops)	www.ham-yota.com/contest
31	0900	31	2359	3.5, 7	Bogor Old and New Contest	Ph	RS, operator age	contest.orari-bogor.org

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.

THE CLUB BROADBAND DIPOLE FINISHED.

On Saturday the 20th of November 2021, nearly a year since Ricky ZL1RIC dug the first hole for one of the supporting poles close to the car park, Ian ZL1IRC with assistance from new club member applicant, John finished the installation.

Following are some notes and photographs showing the final stages of the operation.

Arriving at the clubrooms, I found that Ian and John had just finished raising the centre supporting pole having connected the back stay cable to it. The next task was to attach it to the other pole on the Western end of the clubrooms.

Ian took his skill saw and cut off a length of it and also a smaller chunk to use as a packer between the metal overhang at the top of the roof capping and the vertical section to be clamped to the antenna pole and to hold the other end of the cable.

John and Ian inspecting the piece of wood

Ian pulling up the back stay cable   while John holds the ladder

After tapping the packing piece of wood up under the roof capping, Ian proceeded to pull the back stay cable, now attached to the wooden support, to its mounting position.

Having finally found his socket set in his pants pocket, Ian can be seen again up the ladder doing up the clamp to hold the wooden support attached to the back stay cable in place. That ended all the tasks needed doing at that end of the clubrooms

| *Cable support in position, Ian tightens the stainless-steel clamp* | *Ian pulling up the multiband antenna.* |

Only one step left to complete after Ian pulls up the multiband antenna to its final position.

Ian completing attaching the coax clamps

The antenna now up.

The only jobs now are to clamp the coax cable to the building to stop it thrashing around in the wind. That and attaching to coax to the radio... now that's a job that I can do.

The antenna is now operational and works on all bands... 160m up to 10m. If anything the centre supporting pole is now a little over straight and now leans slightly towards the Western end of the clubrooms, maybe a job for a year or two down the track.

David zl1dk

AND WHAT ABOUT YOUR SWR?

it's a shame nothing is built in the USA anymore. Just bought a TV and it said 'Built in Antenna" I don't even know where that is

BATTERIES – A LESSON WITH A DIFFERENCE

Some amusing lagniappe with some good information on the subject

Anonymous (couldn't locate the author)

When I saw the title of this lecture, especially with the picture of the scantily clad model, I couldn't resist attending. The packed auditorium was abuzz with questions about the address; nobody seemed to know what to expect. The only hint was a large aluminium block sitting on a sturdy table on the stage.

When the crowd settled down, a scholarly-looking man walked out and put his hand on the shiny block, *"Good evening,"* he said, *"I am here to introduce NMC532-X,"* and he patted the block, *"we call him NM for short,"* and the man smiled proudly. *"NM is a typical electric vehicle (EV) car battery in every way except one; we programmed him to send signals of the internal movements of his electrons when charging, discharging, and in several other conditions. We wanted to know what it feels like to be a battery. We don't know how it happened, but NM began to talk after we downloaded the program.*

Despite this ability, we put him in a car for a year and then asked him if he'd like to do presentations about batteries. He readily agreed on the condition he could say whatever he wanted. We thought that was fine, and so, without further ado, I'll turn the floor over to NM," the man turned and walked off the stage.

"Good evening," NM said. He had a slightly affected accent, and when he spoke, he lit up in different colours. *"That cheeky woman on the marquee was my idea,"* he said. *"Were she not there, along with 'naked' in the title, I'd likely be speaking to an empty auditorium! I also had them add 'shocking' because it's a favourite word amongst us batteries."* He flashed a light blue colour as he laughed.

"Sorry," NM chuckled, then continued, *"Three days ago, at the start of my last lecture, three people walked out. I suppose they were disappointed there would be no dancing girls. But here is what I noticed about them. One was wearing a battery-powered hearing aid, one tapped on his battery-powered cell phone as he left, and a third got into his car, which would not start without a battery. So, I'd like you to think about your day for a moment; how many batteries do you rely on?"*

He paused for a full minute which gave us time to count our batteries. Then he went on, *"Now, it is not elementary to ask, 'what is a battery?' I think Tesla said it best when they called us Energy Storage Systems. That's important. We do not make electricity – we store electricity produced elsewhere, primarily by coal, uranium, natural gas-powered plants, or diesel-fueled generators. So to say an EV is a zero-emission vehicle is not at all valid. Also, since forty percent of the electricity generated in the U.S. is from coal-fired plants, it follows that forty percent of the EVs on the road are coal-powered, do you see?"*

He flashed blue again. *"Einstein's formula, $E=MC^2$, tells us it takes the same amount of energy to move a five-thousand-pound gasoline-driven automobile a mile as it does an electric one. The only question again is what produces the power? To reiterate, it does not come from the battery; the battery is only the storage device, like a gas tank in a car."*

He lit up red when he said that, and I sensed he was smiling. Then he continued in blue and orange. *"Mr Elkay introduced me as NMC532. If I were the battery from your computer mouse, Elkay would introduce me as double-A, if from your cell phone as CR2032, and so on. We batteries all have the same name depending on our design. By the way, the 'X' in my name stands for 'experimental.'*

There are two orders of batteries, rechargeable, and single-use. The most common single-use batteries are A, AA, AAA, C, D. 9V, and lantern types. Those dry-cell species use zinc, manganese, lithium, silver oxide, or zinc and carbon to store electricity chemically. Please note they all contain toxic, heavy metals.

Rechargeable batteries only differ in their internal materials, usually lithium-ion, nickel-metal oxide, and nickel-cadmium.

The United States uses three billion of these two battery types a year, and most are not recycled; they end up in landfills. California is the only state which requires all batteries to be recycled. If you throw your small, used batteries in the trash, here is what happens to them.

All batteries are self-discharging. That means even when not in use, they leak tiny amounts of energy. You have likely ruined a flashlight or two from an old ruptured battery. When a battery runs down and can no longer power a toy or light, you think of it as dead; well, it is not. It continues to leak small amounts of electricity. As the chemicals inside it run out, pressure builds inside the battery's metal casing, and eventually, it cracks. The metals left inside then ooze out. The ooze in your ruined flashlight is toxic, and so is the ooze that will inevitably leak from every battery in a landfill. All batteries eventually rupture; it just takes rechargeable batteries longer to end up in the landfill.

In addition to dry cell batteries, there are also wet cell ones used in automobiles, boats, and motorcycles. The good thing about those is, ninety percent of them are recycled. Unfortunately, we do not yet know how to recycle lithium batteries like me or care to dispose of single-use ones properly.

But that is not half of it. For those of you excited about electric cars and a green revolution, I want you to take a closer look at batteries and also windmills and solar panels. These three technologies share what we call environmentally destructive embedded costs."

NM got redder as he spoke. *"Everything manufactured has two costs associated with it, embedded costs and operating costs. I will explain embedded costs using a can of baked beans as my subject.*

In this scenario, baked beans are on sale, so you jump in your car and head for the grocery store. Sure enough, there they are on the shelf for $1.75 a can. As you head to the checkout, you begin to think about the embedded costs in the can of beans.

The first cost is the diesel fuel the farmer used to plough the field, till the ground, harvest the beans, and transport them to the food processor. Not only is his diesel fuel an embedded cost, so are the costs to build the tractors, combines, and trucks. In addition, the farmer might use a nitrogen fertilizer made from natural gas.

Next is the energy costs of cooking the beans, heating the building, transporting the workers, and paying for the vast amounts of electricity used to run the plant. The steel can holding the beans is also an embedded cost. Making the steel can requires mining taconite, shipping it by boat, extracting the iron, placing it in a coal-fired blast furnace, and adding carbon. Then it's back on another truck to take the beans to the grocery store. Finally, add in the cost of the gasoline for your car.

But wait - can you guess one of the highest but rarely acknowledged embedded costs?" NM said, then gave us about thirty seconds to make our guesses. Then he flashed his lights and said, *"It's the depreciation on the 5000 pound car you used to transport one pound of canned beans!"*

NM took on a golden glow, and I thought he might have winked. He said, *"But that can of beans is nothing compared to me! I am hundreds of times more complicated. My embedded costs not only come in the form of energy use; they come as environmental destruction, pollution, disease, child labour, and the inability to be recycled."*

He paused, *"I weigh one thousand pounds, and as you see, I am about the size of a travel trunk."* NM's lights showed he was serious. *"I contain twenty-five pounds of lithium, sixty pounds of nickel, 44 pounds of manganese, 30 pounds cobalt, 200 pounds of copper, and 400 pounds of aluminium, steel, and plastic. Inside me are 6,831 individual lithium-ion cells.*

It should concern you that all those toxic components come from mining. For instance, to manufacture each auto battery like me, you must process 25,000 pounds of brine for the lithium, 30,000 pounds of ore for the cobalt, 5,000 pounds of ore for the nickel, and 25,000 pounds of ore for copper. All told, you dig up 500,000 pounds of the earth's crust for just - one - battery."

He let that one sink in, then added, *"I mentioned disease and child labor a moment ago. Here's why. Sixty-eight percent of the world's cobalt, a significant part of a battery, comes from the Congo. Their mines have no pollution controls and they employ children who die from handling this toxic material. Should we factor in these diseased kids as part of the cost of driving an electric car?"*

NM's red and orange light made it look like he was on fire. *"Finally,"* he said, *"I'd like to leave you with these thoughts. California is building the largest battery in the world near San Francisco, and they intend to power it from solar panels and windmills. They claim this is the ultimate in being 'green,' but it is not! This construction project is creating an environmental disaster. Let me tell you why.*

The main problem with solar arrays is the chemicals needed to process silicate into the silicon used in the panels. To make pure enough silicon requires processing it with hydrochloric acid, sulfuric acid, nitric acid, hydrogen fluoride, trichloroethane, and acetone. In addition, they also need gallium, arsenide, copper-indium-gallium- diselenide, and cadmium-telluride, which also are highly toxic. Silicon dust is a hazard to the workers, and the panels cannot be recycled.

Windmills are the ultimate in embedded costs and environmental destruction. Each weighs 1688 tons (the equivalent of 23 houses) and contains 1300 tons of concrete, 295 tons of steel, 48 tons of iron, 24 tons of fibreglass, and the hard to extract rare earths, namely neodymium, praseodymium, and dysprosium. Each blade weighs 81,000 pounds and will last 15 to 20 years, at which time it must be replaced. We cannot recycle used blades. Sadly, both solar arrays and windmills kill birds, bats, sea life, and migratory insects.

NM lights dimmed, and he quietly said, "There may be a place for these technologies, but you must look beyond the myth of zero emissions. I predict EVs and windmills will be abandoned once the embedded environmental costs of making and replacing them become apparent.

I'm trying to do my part with these lectures. As you can see, if I had entitled this talk "The Embedded Costs of Going Green," who would have come? But thank you for your attention, good night, and good luck."

NM's lights went out, and he was quiet, like a regular battery.

And we were left with our thoughts.

The accuracy of the above is for you to research or evaluate yourself (I make no representation as to how accurate any of the above information is/was), But it made me aware of how many batteries we use in our household, and throw out.

DART – AN EXPERIMENT IN NUDGING AN ASTEROID OFF COURSE

Double Asteroid Redirection Test (DART), the world's first full-scale mission to test technology for defending Earth against potential asteroid or comet hazards launched Wednesday 224th of November atop a falcon 9 SpaceX launch vehicle to attempt to change the direction of an asteroid with a nudge, Rather than Hollywood's more traditional explosions.

"DART is turning science fiction into science fact and is a testament to NASA's proactivity and innovation for the benefit of all," said NASA Administrator Bill Nelson. "In addition to all the ways NASA studies our universe and our home planet, we're also working to protect that home, and this test will help prove out one viable way to protect our planet from a hazardous asteroid should one ever be discovered that is headed toward Earth."

DART's one-way trip is to the Didymos asteroid system, which comprises a pair of asteroids. DART's target is the moonlet, Dimorphos, which is approximately 530 feet (160 meters) in diameter. The moonlet orbits Didymos, which is approximately 2,560 feet (780 meters) in diameter.

Since Dimorphos orbits Didymos at much a slower relative speed than the pair orbits the Sun, the result of DART's kinetic impact within the binary system can be measured much more easily than a change in the orbit of a single asteroid around the Sun.

The spacecraft will intercept the Didymos system between Sept. 26 and Oct. 1, 2022, intentionally slamming into Dimorphos at roughly 4 miles per second (6 kilometres per second). Scientists estimate the kinetic impact will shorten Dimorphos' orbit around Didymos by several minutes. Researchers will precisely measure that change using telescopes on Earth. Their results will validate and improve scientific computer models critical to predicting the effectiveness of the kinetic impact as a reliable method for asteroid deflection.

DART's single instrument, the Didymos Reconnaissance and Asteroid Camera for Optical navigation (DRACO) will turn on a week from now and provide first images from the spacecraft. DART will continue to travel just outside of Earth's orbit around the Sun for the next 10 months until Didymos and Dimorphos will be a relatively close 6.8 million miles (11 million kilometres) from Earth.

Sophisticated guidance, navigation, and control system working together with algorithms called Small-body Manoeuvring Autonomous Real-Time Navigation (SMART Nav) will enable the DART spacecraft to identify and distinguish between the two asteroids. The system will then direct the spacecraft toward Dimorphous. This process will all occur within roughly an hour of impact.

For more information about the DART mission, visit: https://www.nasa.gov/dartmission.

Other Launches

In addition to DART, SpaceX has sent Crew 3 to the ISS, and Rocketlab has been launching many satellites on the electron vehicle from the Mahia peninsula. So if you are interested, there is plenty of space news to follow.

Ramblings from the Editors Desk

When I wrote the 2020 ramblings, I hoped that 2021 would be better, but wondered if that was likely. Well as we enter 2022, I really must wonder what the coming year will give us, and there seems to be plenty to wonder, and for some even worry about.

But there is only one absolute, it will include change and uncertainty. Change can be frightening, it can uncertain, but it can also be a time to evaluate what matters and decide if we are going to let fear control us, or if we are going to control the fear.

In the Jewish Calendar the 28th of November is also 25 Kiselev, and Sunset marks the start of the 8 days of Chanukkah (as the Jewish calendar is lunar based, the dates change each year) this event is also known as the festival of lights and this year it starts on the same day as the Christian advert lighting of the Hope candle. This unusual timing of these two lighting ceremonies, both involving the lighting of lamps, or candles made me wonder if hope and faith are limited to faith communities or should we all be looking for a little hope in our lives.

The cartoon character Charlie Brown once said "I've developed a new philosophy... I only dread one day at a time." If only this were true for many of us in the real world. From transgenic food to industrial chemicals, from radiation to mobile phone towers, and of course Covid-19 and new versions of the Sars-Cov-2 virus the new technologies of our modern world have offered us wonderful new benefits, which also pose a host of new risks. Some of these risks are physically real. Many are only phantoms of our perceptions. Both contribute to an undeniably real sense of worry and apprehension that extends far beyond the next 24 hours.

Fear prepares us to react to danger. Once we sense a potential danger, our body releases hormones that:
- Slow or shut down functions not needed for survival (such as our digestive system)
- Sharpen functions that might help us survive (such as eyesight). Our heart rate increases, and blood flows to muscles so we can run faster.

Our body also increases the flow of hormones to an area of the brain known as the amygdala to help us focus on the presenting danger and store it in our memory.

Living under constant threat has serious health consequences
- Physical health. Fear weakens our immune system and can cause cardiovascular damage, gastrointestinal problems such as ulcers and irritable bowel syndrome, and decreased fertility. It can lead to accelerated ageing and even premature death.
- Memory. Fear can impair formation of long-term memories and cause damage to certain parts of the brain, such as the hippocampus. This can make it even more difficult to regulate fear and can leave a person anxious most of the time. To someone in chronic fear, the world looks scary, and their memories confirm that.
- Brain processing and reactivity. Fear can interrupt processes in our brains that allow us to regulate emotions, read non-verbal cues and other information presented to us, reflect before acting, and act ethically. This impacts our thinking and decision-making in negative ways, leaving us susceptible to intense emotions and impulsive reactions. All these effects can leave us unable to act appropriately.
- Mental health. Other consequences of long-term fear include fatigue, clinical depression, and PSTD.

Modern psychology even gives us an understanding that fear can be inherited, we can inherit the fears of our ancestors, and these cam impact how we react to triggers in the modern world, perhaps who images of slavery, or the holocaust are so real to so many, long after they have supposedly been abolished.

So, whether threats to our security are real or perceived, they impact our mental and physical wellbeing.
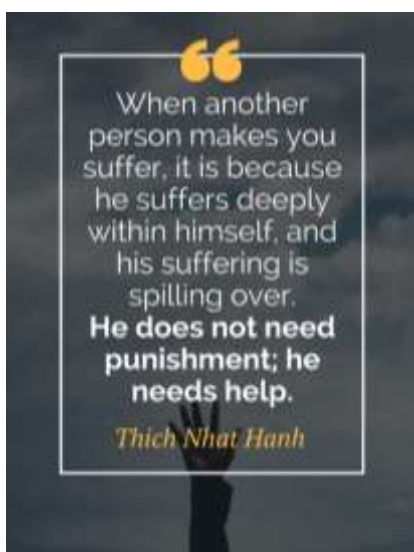
But there are also tools that we can use to manage them, and the only real way forward to is face them. Avoiding our fears only prevents us from moving forward—it makes us anxious. But be gentle with yourself and do only what feels safe to you!

> "Every time your fear is invited up, every time you recognize it and smile at it, your fear will lose some of its strength."
>
> Thich Nhat Hanh

Fear can shatter our sense of the world as we know it. Those who have experienced trauma may also have experienced real losses that further lead them to question the meaning of their lives. Trauma survivors also often feel guilty about what happened, feeling, illogically, that they could have somehow prevented it, and this shame can also contribute to doubts about their meaning.

But whether we suffer from anxiety or trauma, it is important to rediscover a sense of purpose. An 80-year study of factors contributing to longevity found that individuals who return to healthy behaviours after trauma are the ones able to find meaning in the traumatic experience and re-establish a sense of security about the world.

When another person makes you suffer, it is because he suffers deeply within himself, and his suffering is spilling over. He does not need punishment; he needs help.

Thich Nhat Hanh

Logotherapy, which literally means "healing through meaning" simply in letting people tell their stories and feel understood, which helps heal trauma. Another part is finding a way to use skills and experience, including skills learned through trauma, in a meaningful way.

So having a sense of purpose, being connected, to people and communities and finding a connection to the earth, and maybe a higher power, can all help us to not only survive in a time of fear and crisis, but sometimes it can even help us to overcome the fear, and find a higher purpose.

I have often commented on the connections we make on radio being more than just contacts, they are connections, agreed, not every contact becomes a connection, contesting will not make connections, but shared goals and stories are tools to build connections and communities, and maintaining these at times of isolation, are ways to help ourselves, and others.

Sharing stories and being allowed to share them in a safe place promotes understanding, We do not have to agree with every opinion, but the opinion is important to someone, and listening may be the very thing that someone needs, every conversation can lift someone up, or it can isolate them. Our choice.

Nature can help, this summer has been kind to our garden, and the growth has filled in our tranquillity garden, the seats are now well surrounded by green foliage and the sound of trickling water, the sweet smell of jasmine, and the birds and insects in our yard have made this a favourite spot to escape to each day, but walking in a park, to walk in the bush, allows us to escape the pressures that promote fears, and we get to put the world into perspective, If on the walk we can talk with another then we are even better refreshed, and the world reminds us that it will still be here, as it has always been there for.


Maybe, this is why Summits, Parks and Lakes are great places to take a radio and make some contacts, the activator gets to be in nature, and make contacts, and achieve something. Great for our mental health.

As some know, our grandson was recently hospitalised after a dog bite to the head, thanks to the skill of a plastic surgeon, his physical scars will heal with minimal evidence of the injury, but we, like his parents, we more worried about psychological scars, yet to see him play, he has no lasting effect, in fact he might even have been made stronger from the experience, he is more determined, more active, and will no doubt, have a few new scars to show his mum, before he finishes making the world his plaything.

We could all learn from his simplistic view of the world, and like the candle of hope or the Hanukkah menorah they remind us that there is a miracle just around every corner, and that there is light that can make the bleakest of situations brighter.

As we bring this year to a close, and take time for family friends, and recreation, and maybe we travel or stay local instead, let us take time to be mindful of others. Kindness is maybe one of the few gifts that both the giver and receiver benefit from, so maybe this year, we can offer a simple kindness to another, and bring a little light into a dark world.
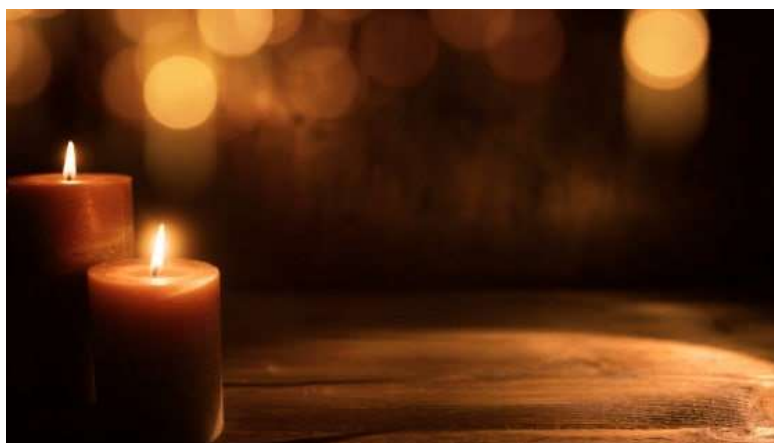
So, enjoy the holiday season, get re-created, and put some positive energy into your emotional bank account and let's put what's important into focus, the year has been dark enough, and no doubt the next will have challenges, but we need not focus on these.

So, I wish that this season brings you good company, many communications, and of course bright days and a chance to enjoy the great outdoors that surround us. But most of all that you manage to escape the fear of the modern age, and instead find hope, light and comfort.

As we light our candles, may we extinguish the darkness and division, and replace it with compassion and caring.

Merry Christmas, and a happy new year de zl1nux

TECH-TIPS CORNER

INSTALLING LINUX ON A HAM SHACK PC.

A Modern Ham shack without a PC, while possible, is like a vehicle without working windows. You can use it, but it won't be as comfortable.

Most Shacks will use a Windows PC, after all, the OS comes free when you buy it, and there is plenty of software you can use for amateur radio tasks like rig control, accessing digital modes, and of course, call logging and Dx cluster monitoring and Spotting SOTA, or POTA activators. Brave souls may use a Mac laptop, and Mac OS, but from personal experience, while there are applications that run on a mac, you must endure some limited choices. There are also Chromebooks, but as these only work with an internet connection, I will refrain from any comment, other than I have one, and it's not in the shack.

But the high demands for Windows 11 have had many windows users take the plunge to purchase new software, and the now unwanted, tired old hardware is ready for a new life. Installing Linux may be a safer option than hanging onto that version of Windows 10/7/XP.

Linux as an operating system is of course not limited to older computers, it powers most servers, web-sites and most email is hosted on Linux servers. Since both the android operating system, and Mac OS, and based on a form of Linux (known as BSD) you could say that the Unix systems are the most popular computer platforms in the world, But since you can't just go and buy a Linux laptop, as easily as you can buy a Windows one, most users feel uncomfortable installing an operating system. Yet a Linux PC or laptop can run your ham shack as well as any windows PC.

In this article, we will look at the steps to follow if you want to dust off that old laptop or PC and install a Linux operating system on it. It's easier than you think, and In this authors experience, a lot easier than installing windows onto most PC's

The first and hardest part is finding out which Linux will work for you. Ok, Reality check, all Linux is the same, Linux is, in reality, just the Kernel (the basic heart) of the operating system, then additional software is installed to manage hardware and more to provide a graphical interface, and finally, we get the system we use. It's possible to build your own Linux, and there is a set of online tools to help you do just that its found at: https://linuxfromscratch.org/lfs/ if you are keen to learn how the system works under the hood, consider it the kit-car of Linux. But since most of us will be happier as a motorist, than a mechanic, there are plenty of ready-built versions we can buy or download freely. And we will look at these "Distributions", which are, like cars, made in the same way, but with enough differences, that you can choose the features that matter to you.

IS LINUX RIGHT FOR ME?

Before we go any further, it's important to ask if Linux is something you should even consider, If you are committed to certain software, or if you need to work in a Microsoft environment, Linux may not be ideal for you. While you can exist in a Microsoft world with Linux, you will have to address connection issues, and while online systems should be platform-independent, if you have to install software, Linux may cause you problems. A lot of software will not run on Linux, and if you don't have the time to learn alternative software, then stick to what you have. Or if you can't reinstall the original, or latest windows, but want a

form of windows, ReactOS https://reactos.org/ may be of interest to you, It's a windows alternative based on an NT kernel, and can run a lot of windows software natively. It's free and open-source and has support from giants like google to help build it. But be warned it's a work in progress.

I still have DOS and Windows 98 & Windows XP machines here – Just for running some old school programming software, and as long as they are not connected to the internet, all is fine with using them.

If, however, you only need a type of software, you may find yourself spoilt for choice, Linux software covers everything from games & office work to a wealth of software ideal for Video editing, Animation, image editing or alteration tools, and of course a wealth of SDR software, rig control, digital modes (including Digital Voice) and of course, Logging software.

HOW OLD IS YOUR COMPUTER?

It's never polite to as a ladies age, but when it comes to selecting a Linux distro for a machine, you need to find one that will work on a machine, of that age, at a reasonable speed. Linux distros designed with high-end features need high-end hardware, but if you're willing to sacrifice some of the eye candy and use a graphical interface that runs faster and lighter, then you can enjoy a fast and pleasant experience on even older hardware. If you are in this category, then look at a distribution like antiX, Puppy Linux, Q4OS or Linux Lite (if you're an Ubuntu fan, then Lubuntu is another choice) For older machines LXLE is an option, but you will find it limited in the shack), If you are open to a different desktop design, Bodhi can be fun to play with. Of the above antiX is a very popular choice. And has even been able to run on an old Pentium III processor.

If your machine is more modern (less than 15 years old) and has a decent amount of RAM(2GB+), and a processor that can run a 64 bit OS, then you may enjoy a more modern feel, and a better range of software you can install, then I would suggest either Zorin or POP OS. Pop is becoming a favourite in my shack, But Zorin is the more reliable in my experience and has the biggest range of Ham software. Of course, Linux Lite and antiX will also work well here *(Hint POP has two choices, With Nvidia Graphics, or without)*

The best part is you can play with your choice, and if you don't like one, just try another.

SO HOW DO I INSTALL LINUX?

To install Linux you will need to start with a download of an image, This image. Usually an ISO image, is, or at least as, designed to be restored onto a CD/DVD and then you would have a bootable media to install from But you have to restore the image in a special way, so that the disk looks like the original, Both Windows and MacOS have good tools for burning an image, but with many images now bigger than the 4Gb limit of an DVD, or the 700Mb limit of a CD, making bootable USB stick is much easier. But you will need a third-party tool to do this (and I am assuming your laptop can boot from a USB drive).

My tool of choice is one called rufus, it's free, and the author of the software has done a really nice job. Many standard distros can be simply selected, and rufus will even download them for you, But I normally download the .ISO image, and then use rufus to copy it to a USB stick. Another good choice is the etcher tool https://www.balena.io/etcher/
I'm going to install POP OS, but it should be similar for any Linux Distro

Once this is done you have to insert the bootable USB stick, and get the laptop (or desktop) to reboot and make it boot from the USB image, If you know the laptop, you may know the Key, Its normally one of the

function keys F8, F9, F10, or F12. I have One that uses F2, and another that uses the escape key. but a quick internet search for set boot device and your model, will show you how to do this. You normally have to keep pressing the key as it boots (apple uses press and hold the C key for the CD/DVD drive, or option key for select boot option)

Once the boot menu shows, select the USB drive and your new OS will start to boot, it's time to make some install decisions.

As the OS boots you will be asked to select the language of your operating system, keyboard layout, installation type of the OS, and the hard disk encryption option. After selecting your language and keyboard layout, you can turn on your Wi-Fi connection to install third-party applications inside your system.

You can set English , then New Zealand, for language preferences, but make sure your Keyboard (input Language) is English US (default), to ensure it operates correctly.

You will see several options in your hand to install the Pop OS. You will see options to make a clean install, refresh install, and custom install of the operating system.

If you don't want to keep the windows install, you can let POP tale over the whole drive (My normal method) and it let do its own setup, (the install can take up to twenty minutes).
Now after everything is done, your system will restart to continue the other steps. So I'm off to a clean install – Just select the drive, and erase and install.

Next we get asked for a full name and user name – Just like any windows account, then we get to choose a password then, select whether you want to encrypt your data or not. It may take a while to complete the installation process if you enable the hard disk encryption process (I normally don't as it only slows the entire PC operation and nothing on here is worth protecting). But don't worry, the actual boot time is enormously fast on Pop OS – But I will choose the "don't encrypt" option.

Then get a coffee (or tea) while the files extract and the drive is formatted and Linux installed.

After the installation is finished, you will be able to see the restart button. Click on the restart button and wait until it reboots. (You can remove the USB drive or DVD now too)

Now, you will reach the welcome page of the Pop OS. Enter your username and password and you're shown a welcome screen, next will check your keyboard is English US, and you get to choose how you want your dock, Then configure your top bar, Super keys, gestures, and then you can set your Wi-Fi, location settings, Time Zone(just click NZ on the Map – Unless you wish to run UTC), and then you can decide if you want to connect to your on-line accounts, and then you're done – There will be some updates, so lets install these.

One of your first visits will be to the POP shop – This is where you get new software and updates for your system. Run the updates, (look under installed) and then search radio, and amateur radio, and you will find a wealth of materials to enjoy.

Then the real learning can begin and you can have fun with another item saved from a rubbish tip. But be careful you may find it hard to go back to windows.

TOWER FOR SALE

TOWER FOR SALE & REMOVAL

Murdock ZL1TEY has his tilt-over tower for sale complete with rotator and antenna. Best offer after negotiation gets to take it away. Tower is located in East Papakura. He is currently looking for the drawings originally used when the tower was first constructed.

Base of the tower is 115mm OD HD galvanised pipe with a pivot point on top approximately 3m above ground level. This is set into a concrete block base. An iron sand filled counterweight is available to assist with tower lowering (piece of pipe with handles next to tower).

The main tilting pole is an approximately 5 or 6m length of 115mm OD pipe with a welded pivot. A slightly smaller piece of pipe is inserted and is cross bolted with 6 sets of 12mm stainless steel bolts. The overall height of the tower is therefore 6+3=9m plus rotator extension pole = ~11-12m.

The KR400 rotator is then mounted on this smaller pole with a further section of pipe supporting the three element HF Yagi. A VHF antenna is then mounted at the very top.

If interested contact Murdock McDonald 09 298 4802 or for higher quality photos email or txt ZL1MR.

SEEN OR HEARD AROUND THE SCENES

H-NIGHT

A reminder that the Society for the Preservation of A.M.'s annual "H" night is on Wednesday, December 8th this year, and in previous years some of us have participated. It is one of the friendliest "contests" – more like an award really, that I have been involved with. H-Night celebrates the day that Amateur radio operators were allowed to resume transmission after the end or world war two, there will be a number of vintage rigs in operation, and more than a couple of ZC1s will be operational

Band- 80 metres
Mode: Amplitude Modulation (AM), Phone only -that is a carrier and sidebands.
Date: Tuesday 8 December 2020
Time- 7.30 pm to 10:00 pm - five (5) half-hour periods.
Work individual stations once in each period, unless they can change radios, and operate in another category, e.g. use a ZC1 for fifteen (15) minutes then change to a modern radio for fifteen (15) minutes.
There will be a special event station ZL6H; Work this station for the first time for five (5) points… subsequent contacts claim the points for the type of station that ZL6H is.
Transmitting Categories-
Vintage - radios of all valve, in the signal path.
Hybrid - radios with some valves, at least in the final stage.
Modern - solid state, DSP etc.
SDR - radios that are fully software defined, Flex, K3 etc.
Home Brew - where Tx , Rx, or both have been fabricated in the home workshop.
QRP - less than, or equal to 5 watts carrier power.
Exchange a signal report and type of equipment you use, e.g. '59 ZC1'. Suggest you use the following extensions when calling, and claim the points for each station worked-
/V = vintage - 3 points
/H =Hybrid- 2 points
/M= Modern - 1 point
/S= SDR - 2 points
/w=Homebrew - 2 points
/Q=QRP - 3 points
Working ZL6H - 5 points (first time worked only : then claim points as for type of station ZL6H is… for example 1 point for a modern 6H)
Points will be awarded for each station contacted, based on the equipment THE STATION YOU CONTACT uses.
Suggested calling frequencies: QRP 3750 and QRO 3850, giving older receivers a chance to hear weak signals.

JUST FOR FUN – TO LIGHTEN THE MOOD
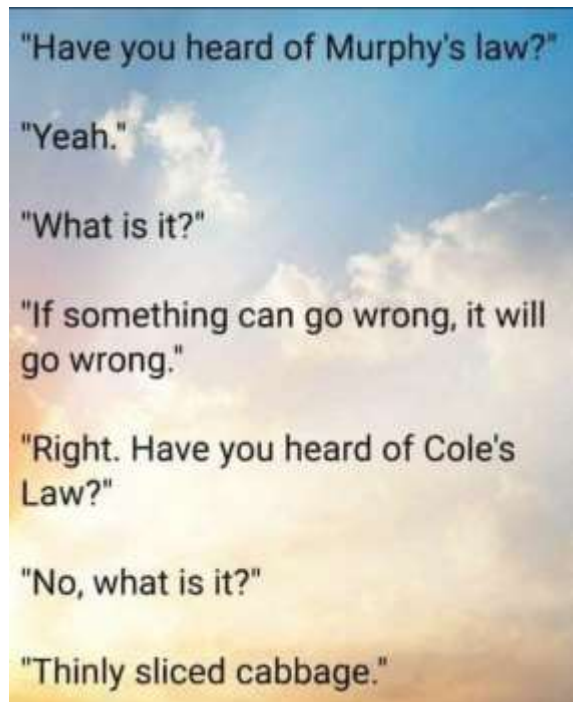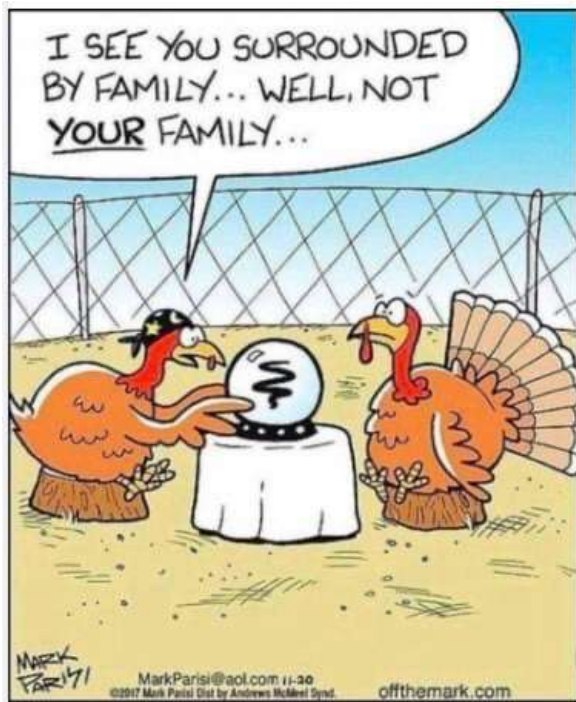
Last year all the windows in our home were replaced by those new-fangled double-glazed energy efficient types. Today we had a call from the installer to say that it had now been a year since they had been installed, and he had yet to be paid.

I graciously explained that the salesman who arranged the install had told me that these windows would pay for themselves in a year, and since it had now been a year since they were installed, they are obviously paid for … There was silence on the line, so I finally hung up the phone.

I bet he feels stupid.

SOME NETS – FOR WHEN YOU ARE LOOKING FOR SOME COMPANY

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.
	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.
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 Net
	20:30	3.696	ZL1OA
	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
	05:00 Zulu	14.183	ANZA DX Net
	18:00	7.115	VK7OB
	19:30	3.720	ZL1MO
	18:30	3.766	ZL3LE
	08:30/20:00	3.730	ZL3RP
	20:30	3.725	ZL2HN / ZL4RF
	21:00	3.677	Counties Net ZL2MA
	21.00	3.535	New Zealand Net (CW)

This is designed to be a living list, Please 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.qsl.net/zl1vk
Club email: zl1vk.club@gmail.com

Elected Officers

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	ZL1RJS	Rob Stokes	021 307 005
	ZL1IRC	Ian Clifford	021 082 48400
	ZL1ASN	Rolly Adams	021 042 7760
	ZL1DK	David Karrasch	021 560 180
	ZL1RIC	Ricky Hodge	027 533 8155
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	

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

146.900 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)