The Official Newsletter of the

PAPAKURA RADIO CLUB INC.

April 2022

Let's let other know about Amateur Radio

CONTENTS ...

This Month's Meetings:

Wed 6 April – General Meeting –
Radiosonde – Weather Balloons and tracking & recovery
Wed 13 April – No Formal Meeting in April
Wed 20 April – Committee Meeting
Wed 27 April – No Formal Meeting in April

CLUB ACTIVITY:

There will be a general meeting at the clubrooms for April, Vaccine Passes will not be required, Masks are optional, and there will be a supper served, In short we are starting the return to Normal club life

We will not be able to stream the meeting or have a virtual attendance at this time.

The speaker will be Ian ZL1AOX on chasing Radiosonde – Weather Balloons and tracking & recovery

We are looking to restart full club schedule (projects) in May

UPCOMING ACTIVITIES:

WED 6 APRIL – GENERAL MEETING
WED 13 APRIL – NO FORMAL MEETING
WED 20 APRIL – COMMITTEE MEETING
WED 27 APRIL – NO FORMAL MEETING

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 April 2022

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
HR5/F2JD						HD8MM HD8MD												JW0X JW100QO										3B8/OM5ZW	
6W7/ON4AVT													VK9NT														A25VR		
						XT2MAX																		PJ5/W5JON					
														TX5N																
TO1Q																													
EM1U																													
JG8NQJ/JD1																													
FT4XW																													

FEATURED EXPEDITION:

VK9NT NORFOLK ISLAND

VK9NT Team will be active from Norfolk Island, IOTA OC - 005, 14 - 25 April 2022.
Team - VK3QB, VK3HJ, VK6CQ.

They will operate on 160 - 10m CW, SSB, FT8.
QSL via M0OXO OQRS.

Norfolk Island

There are few places on earth that can be referred to as paradise without thinking twice. Norfolk Island of Australia is one of those few places. Located amidst the South Pacific region, this island provides shelter to one of those communities that are isolated on the planet. This place, situated amidst the untamed ocean, has every reason to make it into the top places in the world to be treated as a paradise.

Youngsters and teenagers, who love to visit the disco and dance, should try to stay out of this place. This place has a strict prohibition on dancing. Flavored milk might bring about the maximum level of excitement in this place. However, these factors cannot deny from the area being referred to as paradise.

Good easy going and Rare DX – On the doorstep

ALSO CHECK OUT TX5N - RAIVAVAE ISLAND

Just Look a little south of US direction for the French Polynesian Island – Click the links for details .

CONTESTS APRIL 2022

Date-Time		Date-Time		Bands	Contest Name	Mode	Exchange	Sponsor's Website
2	0800	2	2000	1.8-28	RSGB FT4 International Activity Day	Dig	Signal report, 4-char grid square	www.rsgbcc.org/hf/
2	1000	3	0400	14	PODXS 070 Club PSK 31 Flavors	Dig	SPC, mbr or name	www.podxs070.com
2	1200	3	1200	3.5-28	EA RTTY Contest	Dig	RSQ, EA province or serial	concursos.ure.es/en
2	1400	3	0200	1.8-144	Louisiana QSO Party	CW Ph Dig	RS(T), LA Parish or SPC	laqp.louisianacontestclub.org
2	1400	3	0200	1.8-144	Mississippi QSO Party	CW Ph Dig	RS(T), MS county or SPC	arrl.org/sections/view/mississippi
2	1400	3	2000	1.8-UHF	Missouri QSO Party	CW Ph Dig	RS(T), MO county or SPC	www.w0ma.org/index.php
2	1400	3	2200	3.5-28	Florida State Parks on the Air	CW Ph Dig	Park ID or SPC	fspota.org/rules
2	1500	3	1500	1.8-28	SP DX Contest	CW Ph	RS(T), SP province or serial	spdxcontest.pzk.org.pl/2021
5	0100	5	0300	3.5-28	ARS Spartan Sprint	CW	RST, SPC, power	arsqrp.blogspot.com
6	1200	6	1300	1.8-28	A1Club AWT	CW	RST, name	a1club.org/contest/awt
6	2000	6	2100	3.5	UKEICC 80-Meter Contest	Ph	6-char grid square	www.ukeicc.com/80m-rules.php
7	0000	8	0300	7	Walk for the Bacon QRP Contest	CW	RST, SPC, name, mbr or power	qrpcontest.com/pigwalk40
7	2000	7	2200	1.8-50	SKCC Sprint Europe	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
9	0000	9	0600	1.8-28	QRP ARCI Spring QSO Party	CW	RST, SPC, mbr or power	qrparci.org
9	0700	10	1300	1.8-28	JIDX CW Contest	CW	RST, JA prefecture or CQ zone	www.jidx.org/jidxrule-e.html
9	1200	10	1100	3.5-28	DIG QSO Party, CW	CW	RST, mbr (if any)	diplom-interessen-gruppe.info
9	1200	10	1200	1.8-28	OK/OM DX Contest, SSB	Ph	RS, OK/OM county code or serial	okomdx.crk.cz
9	1200	10	1200	3.5-28	FTn DX Contest	Dig	4-char grid square	europeanft8club.wordpress.com
9	1200	10	1800	3.5-28	IG-RY World Wide RTTY Contest	Dig	RST, 4-digit year frst licensed	www.ig-ry.de/ig-ry-ww-contest
9	1200	10	2359	1.8-50	SKCC Weekend Sprintathon	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
9	1300	10	2200	1.8-UHF	Nebraska QSO Party	CW Ph	NE county or SPC (FT8: grid)	nebraskaqsoparty.com
9	1400	10	0200	1.8-144	New Mexico QSO Party	CW Ph Dig	Name, NM county or SPC	www.newmexicoqsoparty.org
9	1400	10	2000	All	Texas State Parks on the Air	CW Ph Dig	RS(T), park ID or SPC	www.tspota.org
9	1800	10	1800	1.8-144	North Dakota QSO Party	CW Ph	RS(T), ND county or SPC	www.ndarrlsection.com
9	1800	10	2359	1.8-50	Georgia QSO Party	CW Ph	RS(T), GA county or SPC	gaqsoparty.com
9	2100	10	2100	1.8-28	Yuri Gagarin International DX Contest	CW	RST, ITU zone	gc.qst.ru/en/section/32
10	0700	10	1900	3.5-14	International Vintage Contest HF	CW Ph	RS(T), 6-char grid square	ariramini.jimdofree.com
10	1000	10	2100	3.5-14	WAB 3.5/7/14 MHz Data Modes	Dig	RS, serial, WAB square or country	wab.intermip.net/Contests.php
10	1800	10	2359	3.5-28	ARRL Rookie Roundup, SSB	Ph	Name, year frst licensed, state/ province/XE area/DX	www.arrl.org/rookie-roundup
10	1900	10	2030	3.5	RSGB RoLo SSB	Ph	RS, previous 6-char grid received	www.rsgbcc.org/hf
11	0000	11	0200	1.8-28	4 States QRP Group Second Sunday	CW Ph	RS(T), SPC, mbr or power	www.4sqrp.com
11	1900	11	2030	3.5-14	RSGB FT4 Contest	Dig	4-char grid square	www.rsgbcc.org/hf
11	1900	11	2300	144	144 MHz Spring Sprint	CW Ph Dig	4-char grid square	sites.google.com/site/ springvhfupsprints
13	0030	13	0230	3.5-14	NAQCC CW Sprint	CW	RST, SPC, mbr or power	naqcc.info
15	2100	16	2100	1.8-28	Holyland DX Contest	CW Ph Dig	RS(T), 4X area or serial	iarc.org/iarc/#HolylandContest
16	0500	16	0859	3.5, 7	ES Open HF Championship	CW Ph	RS(T), serial	www.erau.ee
16	0600	17	0559	3.5-28	Worked All Provinces of China	CW Ph	RS(T), BY province or serial	www.mulandxc.com
16	0700	17	0659	3.5-28	YU DX Contest	CW Ph	RS(T), YU/YT county or serial	www.yudx.yu1srs.org.rs
16	0900	17	2359	3.5-28	CQMM DX Contest	CW	RST, continent abbreviation	www.cqmmdx.com/rules
16	1600	17	0400	3.5-28	Michigan QSO Party	CW Ph	Serial, MI county or SPC	www.miqp.org/Rules.htm
16	1700	17	1200	3.5-28	EA-QRP CW Contest	CW	RST, category, "M" if member	www.eaqrp.com
16	1800	16	2159	1.8-50	Feld Hell Sprint	Dig	RST, mbr (if any), SPC, grid	sites.google.com/site/feldhellclub
16	1800	17	1800	1.8-144	Ontario QSO Party	CW Ph	RS(T), ON county or SPC	va3cco.com/oqp/rules.htm
17	0700	17	1900	1.8-28	Dutch PACCdigi Contest	Dig	RST, PA province or serial	www.veron.nl
17	1200	17	2000	1.8-144	Quebec QSO Party	CW Ph	RS(T), QC zone or SPC	wp1.quebecqsoparty.org
17	2300	18	0100	1.8-28	Run for the Bacon QRP Contest	CW	RST, SPC, mbr or power	qrpcontest.com/pigrun
18	1500	18	1730	3.5,7	DARC Easter Contest	CW Ph	RS(T), DOK or serial	darc.de/der-club/referate/conteste
19	1900	19	2300	222	222 MHz Spring Sprint	CW Ph Dig	4-char grid square	sites.google.com/site/ springvhfupsprints
21	0000	22	0300	14	Walk for the Bacon QRP Contest	CW	RST, SPC, name, mbr or power	qrpcontest.com/pigwalk20
23	0001	24	2359	28	10-10 International Spring Contest, Digital	Dig	Name, mbr or "0," SPC	www.ten-ten.org
23	0800	23	1800	3.5-21	QRP to the Field	CW Ph	RST, SPC, name/SOTA	www.zianet.com/qrp
23	1200	24	1200	3.5-28	SP DX RTTY Contest	Dig	RST, SP province or serial	www.pkrvg.org
23	1300	24	1259	1.8-28	Helvetia Contest	CW Ph Dig	RS(T), HB canton or serial	www.uska.ch/contest
24	0000	24	0400	3.5-14	North American SSB Sprint	Ph	Other's call, your call, serial, name, SPC	ssbsprint.com/rules
24	1700	24	2059	3.5-28	BARTG Sprint 75	Dig	Serial	bartg.org.uk
27	0000	27	0200	1.8-50	SKCC Sprint	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
27	1900	27	2300	432	432 MHz Spring Sprint	CW Ph Dig	4-char grid square	sites.google.com/site/ springvhfupsprints
27	2000	27	2100	3.5	UKEICC 80-Meter Contest	CW	6-char grid square	ukeicc.com/80m-rules.php
30	0600	1	2359	2.3 GHz +	SBMS 2.3 GHz and Up Contest	CW Ph Dig	6-char grid square	n6nb.com/sbmsrules.htm
30	1200	1	1159	1.8-28	Russian WW MultiMode Contest	CW Ph Dig	RST(Q), UA oblast or serial	www.rdrclub.ru
30	1200	1	1200	3.5-28	UK/EI DX Contest, CW	CW	RST, serial, UK/EI district code, serial	ukeicc.com/dx-contest-rules.php
30	1600	1	2159	7-28	Florida QSO Party	CW Ph	RS(T), FL county or SPC	foridaqsoparty.org/rules

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.

UPDATE:
2022 CALLBOOK ODD CHANGES TO 2M & 70CMS BANDPLANS

I'm sure that members will have noticed the totally unexpected and unannounced re-allocations of several important and well-used 2m & 70cms frequencies on Page 21 of the new (red cover) Oct 2021 Callbook.

These changes would move or omit established services such as Voip, AREC, National Calling Frequency, Digital Modes, Packet Radio, and others. They also 'block-fill' the already small Digital part of the spectrum, leaving no frequencies for day-to-day use and experimentation, all having been marked-down for certain specialist modes, and clash with established formally licenced devices.

These changes equally surprised NZART Headquarters, including our President Mark Gooding and Office Manager Debby Morgan when I called them in astonishment on the morning that the Callbook was delivered. They were completely unaware!

Nobody it seems, at NZART had authorised, or even discussed these far-reaching changes, let alone convened a committee to consult with the Membership and stakeholders in the usual way. The President himself wrote to confirm that; "Nothing has changed for over four years!".

It was later ascertained that the new plans had been constructed by one individual compiler of the Callbook, without the knowledge of NZART Council, or anyone else that we were able to identify. When the gentleman was traced however, he kindly wrote to explain in detail how he had personally over-written established allocations on the basis of his own individual preferences and the opinions of friends and people he met on social media!!

Indeed, all this had been done with the very best of intentions, regardless of the mess
it had made of the parts of the bands used for Echolink, AREC, and Fixed Stations that had been RSM licenced for over 20 years. He'd done his best. <u>But this is not how we do business at our National Society....</u>

So, no big deal. Nice fella. But as myself, North Shore Branch, and Regional and National AREC, now subjected to an immediate conflict-of-use acknowledged, it was of immediate importance, especially to AREC that;

A)."NZART withdraw and consult before re-publication"
B). "Contact all callbook recipients and notify them of problems"
C). "Remove this version from NZART Website to minimise effects of incorrect info"

As of this date, NZART Council have met to discuss the matter, and again stated that
"Council sees no need for any changes to the Band Plan"
However, despite input from various stakeholders and numerous requests by myself, **<u>NZART have still not issued any withdrawal</u>** in any medium that I have seen, although I have been urgently calling for this since 2021.

Meantime, we can only hope that direct conflicts caused by the "Errors and Lack of Consultation" (as AREC describe it) do not reach a serious level. I for one, will NOT be moving my equipment from their existing frequencies!!
After three months we continue to await urgent corrective action by NZART.

Members may be best advised to consult the (correct) 2020 black-cover Callbook before deciding where to operate in these two bands!

de ZL4AX

70 CM PLAN FROM NZART WEBSITE:

Based on Pauls Timely Reminder, here are the last know official plans on the NZART website

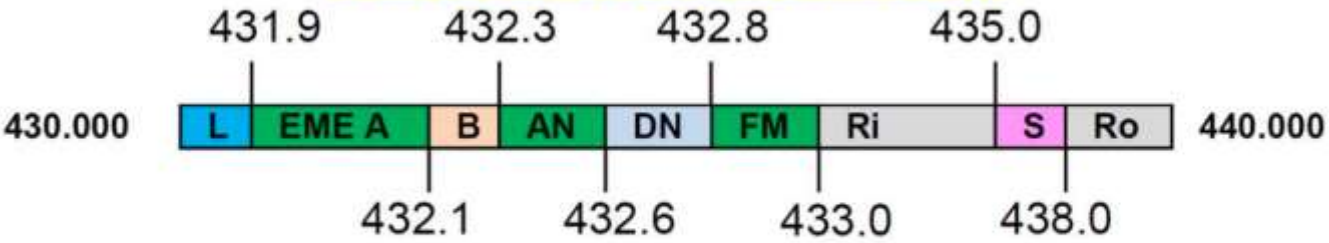
(Updated 16th December 2016 with respect to the two calling frequency spot names at 432.1 and 432.2.)

430.000 to 431.900	Repeater links (Possible sharing in future)
431.900 to 432.000	Guard Band EME
432.000 to 432.100	EME
432.100 to 432.600	Narrow Band modes (BW 6 kHz or less)
432.100	External Calling Frequency
432.200	Internal Calling Frequency
432.250 to 432.300	Beacons (horizontal polarisation)
432.300 to 432.400	Spare
432.400 to 432.600	Guard Band Australian Beacons
432.575	APRS (current) (note 2)
432.600 to 432.800	FM Digital modes (5 kHz or less deviation)
432.650	Packet digipeaters
432.675	Secondary packet digipeaters
432.700	VOIP Simplex
432.725	VOIP Simplex Secondary
432.750	P25/Dstar/DMR Simplex
432.775	APRS (note 2)
432.800 to 432.975	FM Simplex (5 kHz or less deviation)
433.000 to 434.795	Repeater Inputs/Outputs (note 1)
434.800 to 435.000	National System Repeaters (note 1)
435.000 to 438.000	Amateur Satellite Operations
438.000 to 439.800	Repeater Inputs/Outputs (note 1)
439.800 to 440.000	National System Repeaters (note 1)

Note 1: Repeaters in this band are normally negative 5 MHz offset but where there are problems with SRD/LIPD devices on the repeater input a suitable positive offset repeater frequency pair can be obtained from FMTAG. (reference the FMTAG paper “The Impact on 70cm Repeaters of the General User Radio License (GURL) for Short Range Devices (SRD)” issue 2 which may found at info/band-plan/impact-70cm-srd or on the right menu option Impact on 70 cm SRD)

Note 2: It is envisaged that APRS will need to migrate over time from 432.575 MHz to 432.775 MHz. The continued use long term of 432.575 MHz would clash with the Australian Beacon allocation.

430.000 to 440.000 MHz – 70 cm



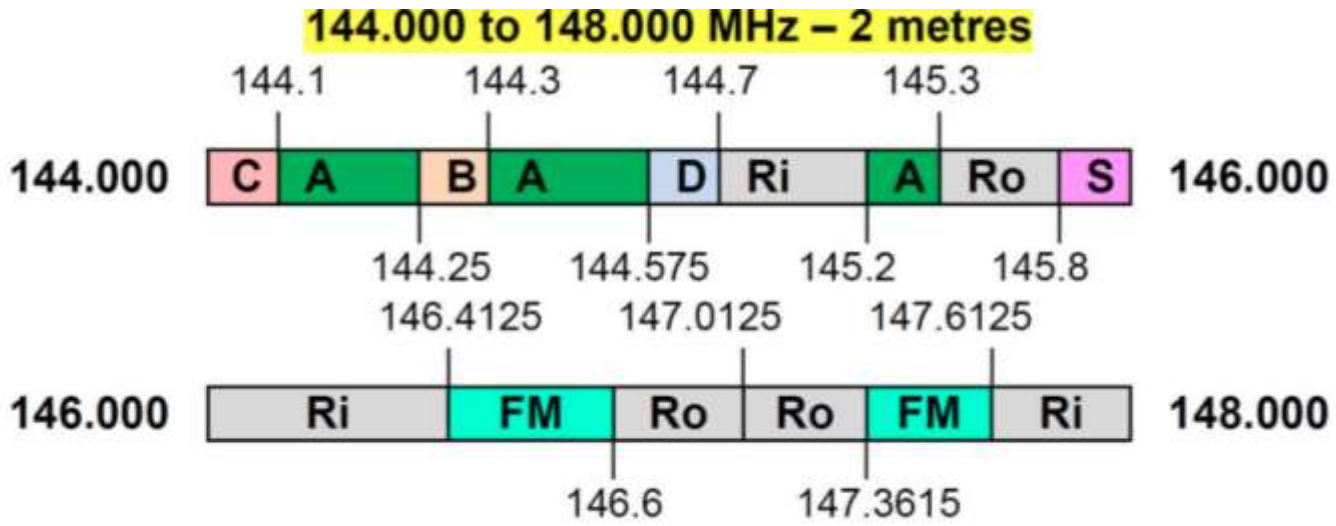
See full 70cm band plan on page 3 of this section. It is envisaged that APRS will need to migrate over time from 432.575 MHz to 432.775 MHz. The continued use long term of 432.575 MHz would clash with the Australian Beacon allocation.

Repeaters in this band are normally negative 5 MHz offset but where there are problems with SRD/LIPD devices on the repeater input a suitable positive offset repeater frequency pair can be obtained from ELG. These frequencies are, or may be, allocated for use by other services. Amateur operators must accept interference from, and must not cause interference to, such other services. 433.05 - 434.79 MHz is also allocated for LIPDs, Industrial, Scientific and Medical (ISM) purposes.

KEYS:	
C	= CW or modes less than 1 kHz bandwidth
A	= All modes with bandwidth less than 16 kHz
AN	= All modes with bandwidth less than 6 kHz
AW	= All modes
D	= Data modes with bandwidth less than 16 kHz
DN	= Data modes with bandwidth less than 6 kHz
1	= Standard 1 MHz narrow band segment
T	= Telemetry or tele-control only – 11 metres
Ri	= Repeater input band segment
Ro	= Repeater output band segment
B	= Beacons
FM	= FM simplex
S	= Satellites
L	= Linking

NZ 2 m Band Plan

144.000 to 144.200	EME & CW
144.100	Oceania (External to NZ) SSB & CW Calling
144.200	New Zealand (Internal to NZ) SSB & CW Calling
144.230	Meteor Scatter
144.250 to 144.300	Beacons (Geographical Plan – 1 kHz spacing)
144.350	Rotorua Linear Repeater Output
144.500	FM Calling
144.550	Narrow Digital mode of up to 16 kHz Bandwidth
144.575	APRS and simplex data
144.600	P25 Simplex
144.625	YSF/NXDN (Fusion)
144.650	Packet Radio and simplex data
144.675	DMR Simplex
144.700	D-Star Simplex
144.725 to 145.200	Repeater Inputs
145.225 to 145.300	FM Simplex
145.250	Narrow Band Picture Modes (SSTV, Fax, Hellschriber etc)
145.325 to 145.775	Repeater Outputs
145.800 to 146.000	Satellite
146.025 to 146.400	Repeater Inputs
146.425 to 146.600	FM Simplex
146.625 to 147.375	Repeater Outputs
147.400 to 147.600	FM Simplex
147.625 to 147.975	Repeater Inputs



Amateur satellite service permitted in the range 144-146 MHz. Oceania SSB calling 144.1 MHz, ZL calling 144.2 MHz, FM calling 144.5 and 146.475 MHz. Primary packet/digipeater 144.65 MHz, other frequencies available.

Below 147 MHz, repeater offset -600 kHz, otherwise +600 kHz; Beacons 144.250-144.300 MHz. 146 to 148 MHz are, or may be, allocated for use by other services. Amateur operators must accept interference from, and must not cause interference to, such other services.

The Nzart plans can be found at:

HTTPS://WWW.NZART.ORG.NZ/INFO/BAND-PLAN/

A SPECIAL PRESIDENTS COMMENT

At the committee meeting in March, the committee agreed to end the vaccine pass requirements for club activities, there were many reasons for making the call, most based on how omicron had changed the game, and the need to get the club back to some sense of normalcy. but considering all that has happened in the almost 3 weeks since, the matter is really no longer worth discussing.

The Government requirements for Vaccine passes for gatherings over 25 ceases at midnight on the 4th of April, and as a result, we are now permitted up to 200 persons without the requirement for vaccine passes. Since none of us can remember a time when we have hit this number and given that we would struggle to fit 200 persons into the hall, the requirement no longer makes sense.

In addition, the rules around mask use have also changed. While masks are still recommended, and in some situations (where mixing is likely) like shops or close contact situations, mandatory, any venue in which an exclusive hire, or single group gather does not require mask use.

Naturally we need to remember that we are still in a period in which the virus is spreading in the community, and some members remain vulnerable. But at the same time, I believe that intelligent people, and I choose to include Amateur Radio operators in that category, can make a personal risk assessment, and decision about their own health requirements.

In Short – We are trusting you to do what you feel is right for you.

Therefore, all future meetings, will not require any covid-19 related requirements from any attending person. We will also be returning to social discussion after the meeting with a shared supper. We will still record your visit in the record book, and we will also be encouraging maintain appropriate distancing that will make all our members comfortable.

All that is important is respect, we share a hobby based on radio and communication, we are not experts in what is right or not for anyone other than ourselves, in this light I request that all member show respect for any attendee whether they wear a mask, or not. Whether they are vaccinated, or not, Boosted, double boosted … its not our business, nor our concern. We are after all, a Radio Club. So, let's talk radio.

I understand that some will still choose to remain away from meetings, until the risks of infection have reduced further, and we respect that too, but after 2 years of limited contact, it's time to again get the club back on its feet and running meetings. And barring any unexpected problems we plan to restart project nights in May.

We need also noted that this means we can again look at classes, and maybe even some ham crams, as we have had a number of enquiries from interested parties, and hope that we will be running exams soon.

We look forward to seeing you back at the clubrooms when you feel ready.

It's time to get back to some radio fun.

RAMBLINGS FROM THE EDITOR'S DESK

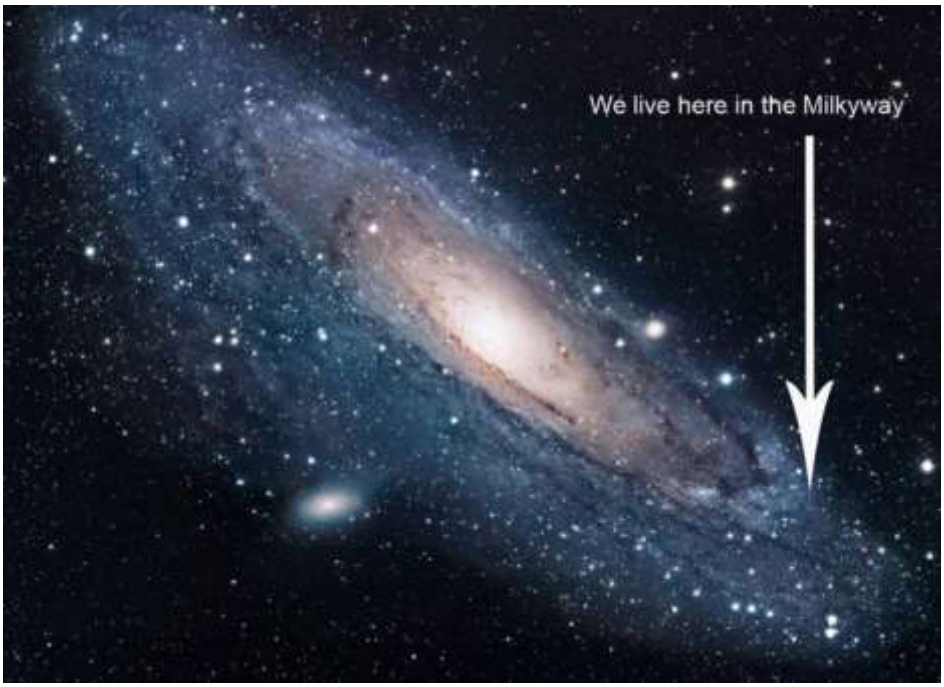
As life starts the long slow journey towards normal, and we adapt to darker evenings, and hopefully some cooler nights, we will have to think about what normal really is.

Some are talking about a "New Normal" but for those of us old enough to remember our history, we have been here before, high fuel prices, high food prices, and debt that must be repaid with interest. "Been There Done That". But it's not normal even if there are other factors at play this time. As a nation we have never been so divided. The division is seen everywhere, and as we emerge from the last 2 years, we will have to carry this forward into the days ahead.

Even the simple act of lifting of the vaccine pass is not guaranteed, some employers or traders will find it too hard to think of a life without it, they will resist the change. They will seek to stay with what they have become used to. Psychologists speak of the Stockholm syndrome, a condition is which someone who has been held captive, develops a psychological connection with their captors and begin sympathizing with them, in addition they develop a deep distrust of anyone who threatens those who held them captive.

While we were not held captive, we have all experienced a form of trauma. We have experience fear and mental stress, and our responses to this change will be influenced by that experience. But we have not shared the same experience, we all experienced it differently, we will need to change differently. We as humans have an incredible dislike to change, even when that change is beneficial, we all know we should eat healthy and exercise, but changing our habits and actually doing it takes discipline and effort and changing the habits we have developed over the last 2 years will not be easy. After all, how long will it take to adapt to the new sleep patterns of daylight-saving changes. How long will you carry feelings of Jetlag?

But as much as we like to think the world has changed, but in many ways it has not.

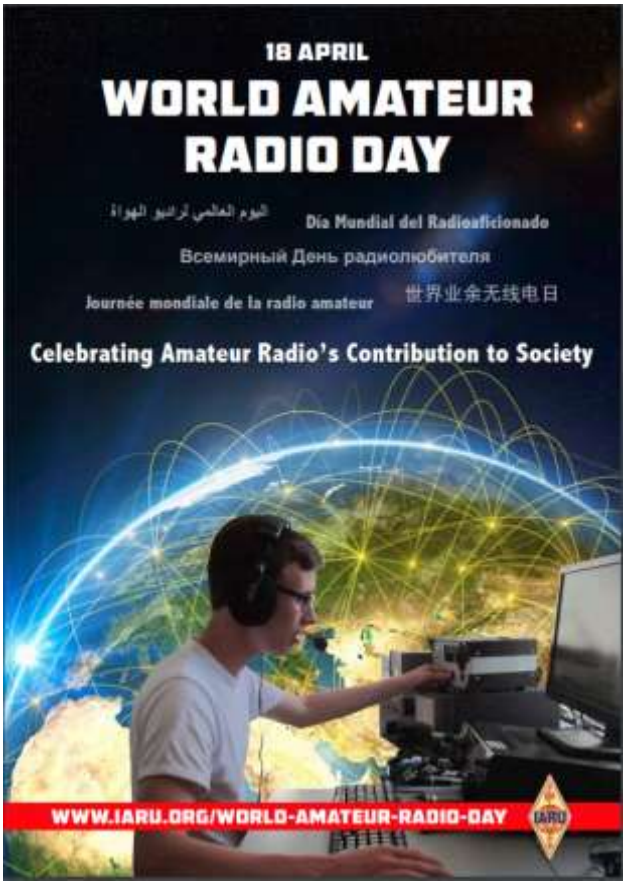


We have the opportunity now to reconnect to world we knew before the word coronavirus was uttered outside medical textbooks. Already some have started, some have climbed an inner-city summit to activate their first SOTA site (sadly I could not here them, just those responding to them), others are again returning to the morning commute chat, and yet others are just getting used to setting a foot back into an office.

These small steps are the secret to making a change, any change, and they are the key to making any positive change. We now get to decide what sort of radio club we want to be, and how will we connect to a new world. Part of that will mean embracing some new technology, we will be connecting to others with virtual meetings, which have become such a part of our lives, that we all talk of Zoom, Teams and Slack, as if we had always used them, yet up to 2 years ago, very few of us even though of them. But these tools will allow those who wish to join us, but cannot travel to do so, and will allow us to access guest speaker in other cities, or even other countries. This can be a positive we can choose to keep, but it will never replace the face-to-face interactions with other humans that we all need at a most basic human level.

There is no treatment defined for Stockholm syndrome, the treatment that is used is the same as for any Post Traumatic Stress Disorder (PTSD), and it is acknowledge the trauma, but then take it slowly, and make small changes that empower you to take control. As we do this, we discover the uncomfortable truth. It is not that the world has changed, and we must change with it. But the truth is we have changed, and we have been changing how we viewed the world.

At this time, we have a unique opportunity to decide upon the sort of world we want to live in, and we can make the changes that can give us a world we want. Maybe not the whole world, that might be a nice motivational poster, but not realistic, but we can change how we treat our neighbours, then maybe our local community, and then maybe even our city, but a small change, while achievable, is also the hardest to make, because we know we will be noticed. But its these very small changes that will make the most difference.



April 18th is World Amateur Radio Day. Since this is also Easter Monday, it is very unlikely that we will be doing a lot of radio activities on the Monday, but if possible, maybe a few of us could use part of the weekend to get out and set up an outdoor in some public place and promote ham radio. It won't take a lot, just some people willing to be seen in public, and possibly talk to some people about the hobby, make a few contacts, you know Radio Stuff.

On World Amateur Radio Day, all radio amateurs are invited to take to the airwaves to enjoy our global friendship with other amateurs, and to show our skills and capabilities to the public.

Small things can lead to big changes, and there are a lot of people who are looking for some of what we offer, the technical skills to make something work, the community, and of course the connectedness that we share.

I experienced just how many people are ready to join the hobby recently when I offered to do a short talk about Ham Radio, I expected a handful, but the interest was way beyond what I expected, and even now I am still having others contacting me for more information. So now we have many people wanting ham-crams or study sessions, and we are not alone, North Shore is busy, I'm told the VHF group is planning some ham-crams too.

Why the interest now?

To be honest I'm not really sure but I have noticed that many people are looking to rebuild communities and be more self-reliant in the post covid world and as international tensions seem to be increasing, they see radio as a way to stay connected no matter what happens, and why wouldn't they.

We already know (I hope) of the benefits radio can bring to communities in terms of events, AREC has a long history of providing communications support and expertise to many different groups, and we know the benefits radio communications can offer in many situations, So why not share that message with others.

So if you're ready to step out here are some ways to participate in, and promote, World Amateur Radio Day:

- Get a station on the air! Create your own personal "event" to talk about amateur radio to others, including family and friends.
- Find out more about World Amateur Radio Day by checking the IARU website and other Resources listed below.
- Create and hold a special net or on-air event on World Amateur Radio Day to raise the level of attention for the celebration, and to encourage other hams to talk about our hobby. Consider creating and offering a commemorative certificate for contacting your special activation. It can be an electronic one as these are cost effective.
- Get the word out! If you are an ARRL Public Information Coordinator, Public Information Officer, or responsible for radio club publicity, send a press release and conduct some public relations outreach to highlight the day and/or events. Talk about all of the activities radio amateurs have continued to support during the pandemic, and how amateur radio serves our communities. Find recent examples of amateur radio in-the-news at www.arrl.org/media-hits.
- Promote your personal World Amateur Radio Day activity(ies) on social media platforms like Twitter and Facebook by using the hashtag #WorldAmateurRadioDay. Make sure you send it to various clubs, reflectors, and media.

Resources
ARRL, the national association for Amateur Radio
http://www.arrl.org/world-amateur-radio-day

IARU
https://www.iaru.org/on-the-air/world-amateur-radio-day

IARU Region 2: The Americas
https://www.iaru-r2.org/en/on-the-air/world-amateur-radio-day/

Article: "**Why World Amateur Radio Day is key to highlight crucial service**," ITU News Magazine (No. 1, 2021)
https://www.itu.int/en/myitu/Publications/2021/02/02/15/24/ITU-News-Magazine-No-1-2021

Public Relations and Outreach

2022 World Amateur Radio Day backgrounder (PDF)
2022 World Amateur Radio Day media advisory (WORD template)

So why not do something local, or bring some ideas to the meeting Wednesday, and lets make this the year we bring ham radio to our communities – They just might find they like it. And you might enjoy it too, and maybe we will be a little less divided

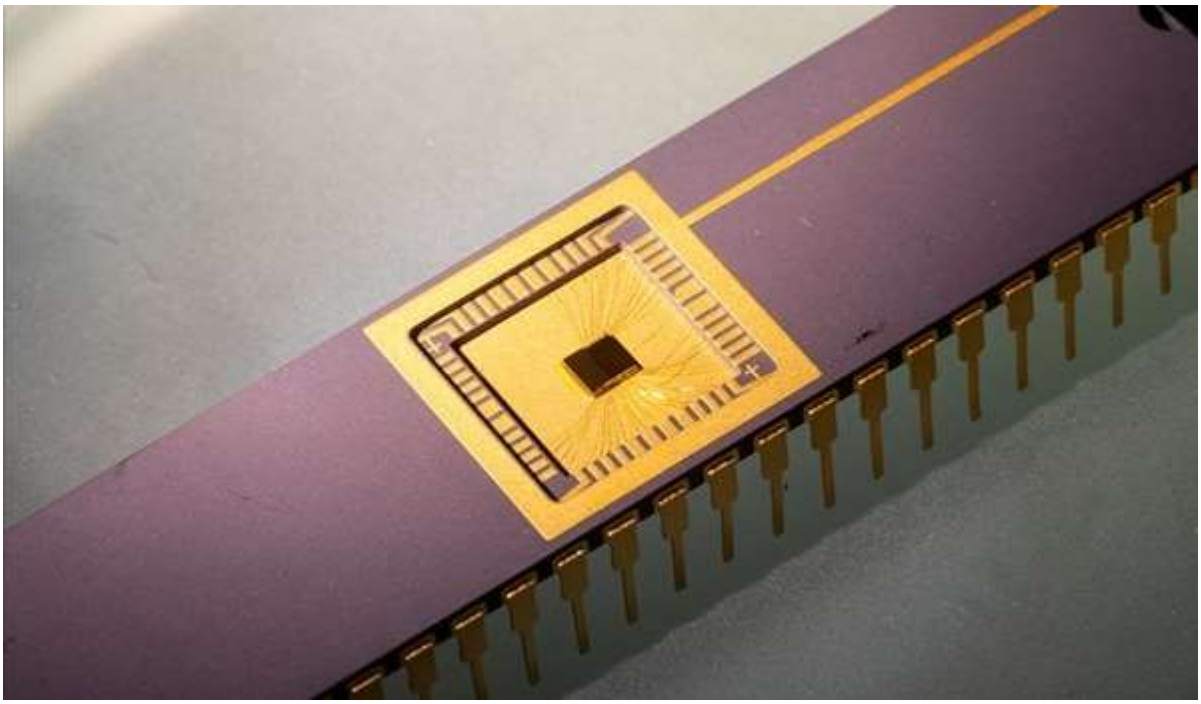
de ZL1NUX

A SCIENCE TEAM HAS BROKEN THE LAWS OF PHYSICS, AND THAT MIGHT MEAN A NEW TYPE OF POWER

There is a well-known (at least among Physicists) assertataion by physicist Richard Feynman that the thermal motion of atoms, known as Brownian motion, cannot do work.

In the 1950s, physicist Léon Brillouin published a landmark paper refuting the idea that adding a single diode, a one-way electrical gate, to a circuit is the solution to harvesting energy from Brownian motion.

But a team of researchers at the University of Arkansas have successfully developed a circuit capable of capturing graphene's thermal motion and converting it into an electrical current. If the findings, titled "Fluctuation-induced current from freestanding graphene," and published in the journal *Physical Review E*, hold true. These appear to be proof of a theory the physicists developed at the University of Arkansas three years ago that freestanding graphene — a single layer of carbon atoms — ripples and buckles in a way that holds promise for energy harvesting.



“An energy-harvesting circuit based on graphene could be incorporated into a chip to provide clean, limitless, low-voltage power for small devices or sensors,” said Paul Thibado, professor of physics and lead researcher in the discovery.

Thibado’s group built their circuit with two diodes for converting AC into a direct current (DC). With the diodes in opposition allowing the current to flow both ways, they provide separate paths through the circuit, producing a pulsing DC current that performs work on a load resistor.

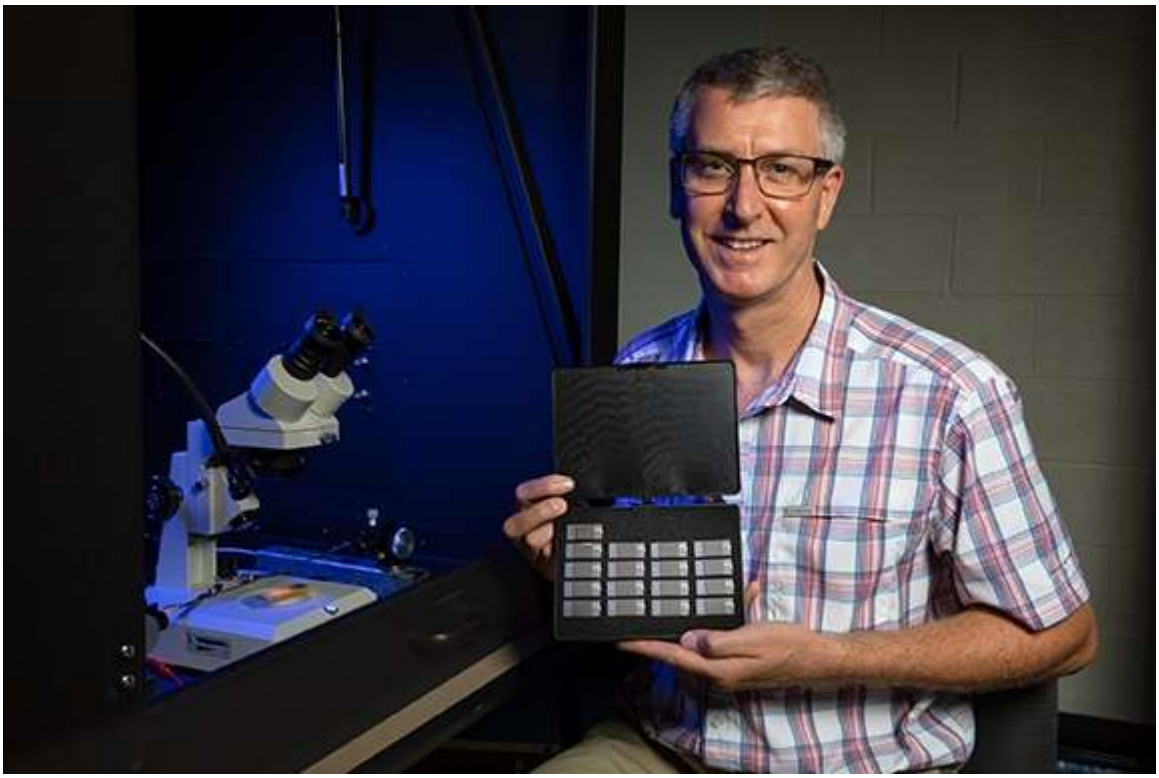
Additionally, they discovered that their design increased the amount of power delivered. “We also found that the on-off, switch-like behavior of the diodes actually amplifies the power delivered, rather than reducing it, as previously thought,” said Thibado. “The rate of change in resistance provided by the diodes adds an extra factor to the power.”

The team used a relatively new field of physics to prove the diodes increased the circuit’s power. “In proving this power enhancement, we drew from the emergent field of stochastic thermodynamics and

extended the nearly century-old, celebrated theory of Nyquist," said coauthor Pradeep Kumar, associate professor of physics

According to Kumar, the graphene and circuit share a symbiotic relationship. Though the thermal environment is performing work on the load resistor, the graphene and circuit are at the same temperature and heat does not flow between the two.

That's an important distinction, said Thibado, because a temperature difference between the graphene and circuit, in a circuit producing power, would contradict the second law of thermodynamics. "This means that the second law of thermodynamics is not violated, nor is there any need to argue that 'Maxwell's Demon' is separating hot and cold electrons," Thibado said.



The team also discovered that the relatively slow motion of graphene induces current in the circuit at low frequencies, which is important from a technological perspective because electronics function more efficiently at lower frequencies. "People may think that current flowing in a resistor causes it to heat up, but the Brownian current does not. In fact, if no current was flowing, the resistor would cool down," Thibado explained. "What we did was reroute the current in the circuit and transform it into something useful."

The team's next objective is to determine if the DC current can be stored in a capacitor for later use, a goal that requires miniaturizing the circuit and patterning it on a silicon wafer, or chip. If millions of these tiny circuits could be built on a 1-millimeter by 1-millimeter chip, they could serve as a low-power battery replacement.

The University of Arkansas holds several patents pending in the U.S. and international markets on the technology and has licensed it for commercial applications through the university's Technology Ventures division.

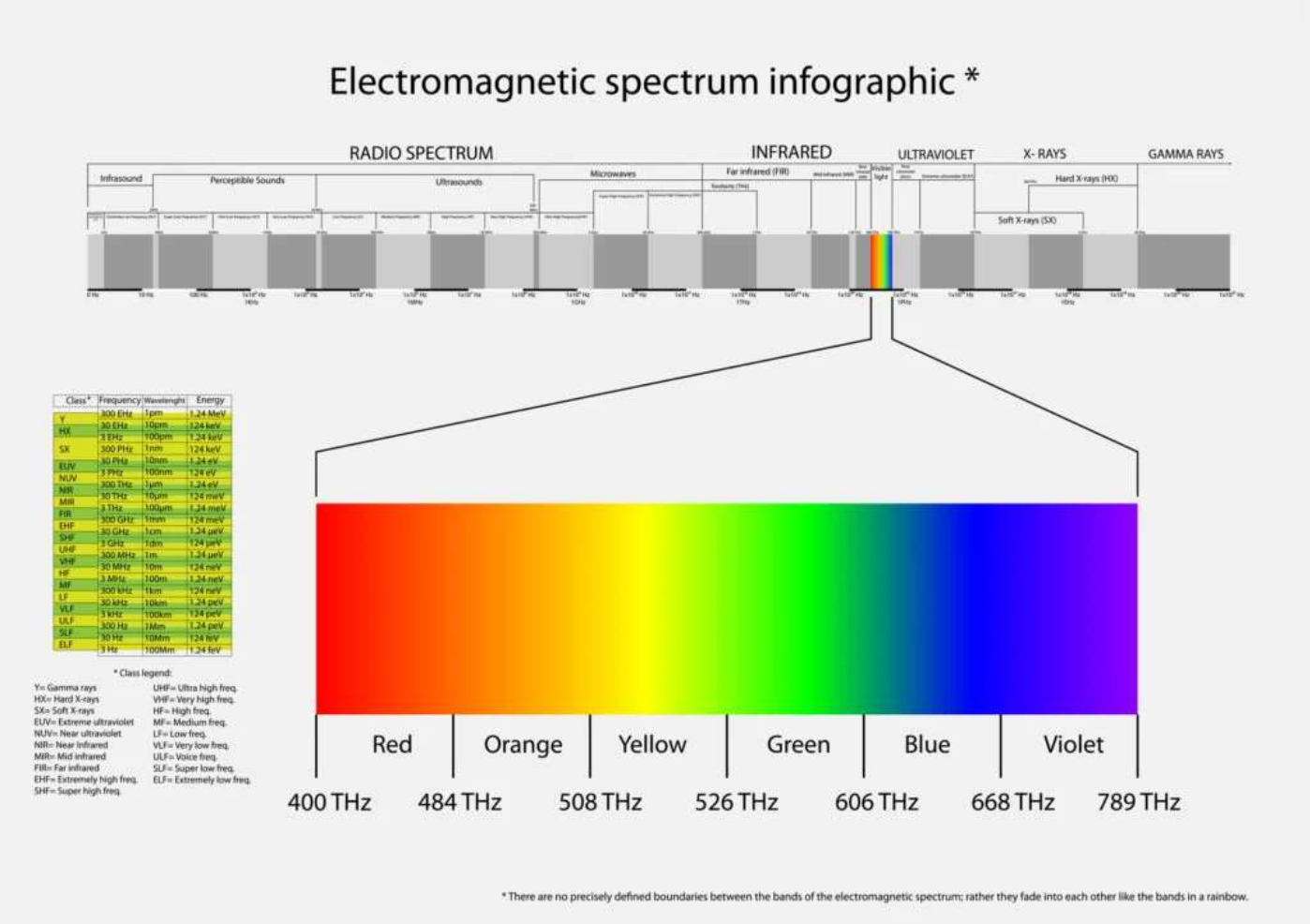
This might be a technology worth watching

COULD TERAHERTZ WAVES CHANGE YOUR LIFE?

There's a gap on the electromagnetic spectrum where engineers cannot tread.

The spectrum covers everything from radio waves and microwaves, to the light that reaches our eyes, to X-rays and gamma rays. And humans have mastered the art of sending and receiving almost all of them.

There is an exception, however. Between the beams of visible light and the blips of radio static, there lies a dead zone where our technology isn't effective. It's called the terahertz gap. For decades now, no one's succeeded in building a consumer device that can transmit terahertz waves.



The terahertz band lies in a slim region of the electromagnetic spectrum between microwaves and infrared.

But some researchers are slowly making progress. If they stick the landing, they might open up a whole new suite of technologies, like the successor to Wi-Fi or a smarter detection system for skin cancer.

The mystery of the terahertz

Think of the terahertz gap as a borderland. On the left side, there are microwaves and longer radio waves. On the right side lies the infrared spectrum. (Some scientists even call the terahertz gap "far infrared.") Our eyes can't see infrared, but as far as our technologies are concerned, it's just like light.

Radio waves are crucial for communication, especially between electronic devices, making them universal in today's electronics. Light powers the optical fibers that underpin the internet. These realms of technology typically feed off different wavelengths, and uneasily coexist in the modern world.

But both realms struggle to go far into the terahertz neutral zone. Standard electronic components, like silicon chips, can't go about their business quickly enough to make terahertz waves. Light-producing technologies like lasers, which are right at home in infrared, don't work with terahertz waves either. Even worse, terahertz waves don't last long in the Earth's atmosphere: Water vapor in the air tends to absorb them after only a few dozen feet.

There are a few terahertz wavelengths that can squeeze through the water vapor. Astronomers have built telescopes that capture those bands, which are especially good for seeing interstellar dust. For best use, those telescopes need to be stationed in the planet's highest and driest places, like Chile's Atacama Desert, or outside the atmosphere altogether in space.

The rest of the terahertz gap is shrouded in mist. Researchers like Hu are trying to fix this, but it isn't easy. When it comes to tapping into terahertz waves, the world of electronics faces a fundamental problem. To enter the gap, the silicon chips in our electronics need to pulsate quickly—at trillions of cycles per second (hence a terahertz). The chips in your phone or computer can operate perfectly well at millions or billions cycles per second, but they struggle to reach the trillions. The highly experimental terahertz components that do work can cost as much as a luxury car. Engineers are working to bring the prices down.

The future of terahertz technology

For now, the two realms trying to enter the terahertz dark zone from either end remain largely separate. Even so, they're giving the science world new abilities in a broad range of disciplines.

Some of those abilities could speed up communication. Your Wi-Fi runs on microwaves: Terahertz, with higher frequencies than microwaves, could forge a better connection that's orders of magnitude faster. Through a wire, it could also create a lightning-fast cross between USB and fiber optics.

Terahertz waves are also ideal for detecting substances. Almost every molecule has a 'fingerprint' spectrum in the terahertz frequency range. That makes terahertz waves optimal for picking out chemicals like explosives and the molecules in medicines. Astronomers already use that ability to look at the chemical compositions of cosmic dust and celestial objects.

Those terahertz signatures also make the far infrared ideal for scanning people and objects. Terahertz waves can see through stuff that light can't, such as clothes, with the bonus of avoiding potentially harmful ionizing radiation like X-rays. Security screeners have already shown interest in the tech.

The one scanning characteristic that terahertz waves lack is that they can't get through water—in the air and in the human body. But that's no obstacle for medicine. A doctor could use a terahertz device to screen for subtle signs of skin cancer that X-rays might miss; or a neuroscientist might use it to scan a mouse brain.

Researchers really don't have a lot of chances to explore what [terahertz waves] can be good at, So, for now, the faster, more sensitive world inside the gap remains largely in their imagination.

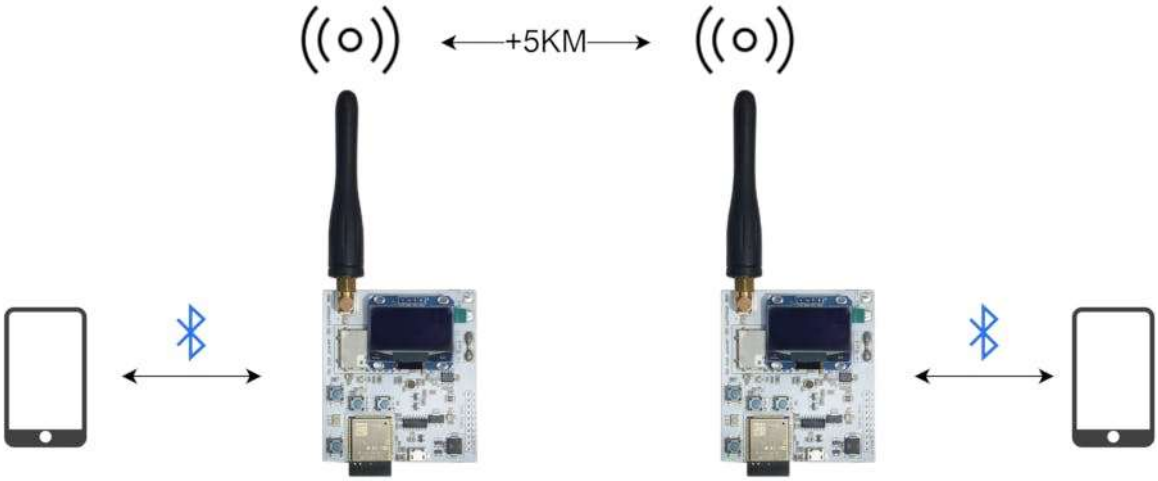
But the technology is becoming more available, and with it, a whole new realm to explore.

THE SOCORAD32 IS AN ARDUINO-COMPATIBLE SOFTWARE-CONTROLLED RADIO WALKIE-TALKIE, DRIVEN BY AN ESP32

The SOCORAD32 is arrives incomplete, requiring a speaker and battery to be added. (📷: Mord Technologies)

Mord Technologies is preparing to launch an open source walkie-talkie based on software-controlled radio hardware, driven by an Espressif ESP32 microcontroller: the SOCORAD32.

"SOCORAD32, aka the ESP32 Software Controlled Radio, is a professional-grade hackable walkie-talkie for amateur radio exploration, voice, and data communication using simple AT commands," says Mord Technologies founder Mordecai Raji. "Just add a speaker and a battery and you get a fully functional walkie-talkie radio. With the onboard dedicated Push To Talk (PTT) button, SOCORAD32 can be used straight out of the box without touching a single line of code!"



Driven by an Espressif ESP32-WROOM module, the board — which crams all its components onto the upper side of the compact PCB — uses an RDA1846 chip for its radio side. "This is the same IC used in commercial walkie-talkies such as in Baofeng, Motorola, and Hytera," Raji explains. "Because of this, SOCORAD32 can communicate with commercial walkie-talkies with ease.

"In addition to all of this, SOCORAD32 utilizes powerful ESP32 Bluetooth functionality. All SOCORAD32 settings can be adjusted via a connected mobile device using a serial Bluetooth app of any choice, while also being adjustable via the dedicated physical buttons."

Mord Technologies is preparing to launch an open source walkie-talkie based on software-controlled radio hardware, driven by an Espressif ESP32 microcontroller: the SOCORAD32.

"SOCORAD32, aka the ESP**32 So**ftware **Co**ntrolled **Rad**io, is a professional-grade hackable walkie-talkie for amateur radio exploration, voice, and data communication using simple AT commands," says Mord Technologies founder Mordecai Raji. "Just add a speaker and a battery and you get a fully functional walkie-talkie radio. With the onboard dedicated Push To Talk (PTT) button, SOCORAD32 can be used straight out of the box without touching a single line of code!"

Designed to be instantly accessible, the SOCORAD32 aims at ease-of-use: It's controlled using simple AT commands over a 9,600 baud UART. It operates on the 400-470MHz spectrum with 0.5-2W power output and boasts integrated voice scrambling and compression capabilities, as well as support for short messaging service transmission and reception.

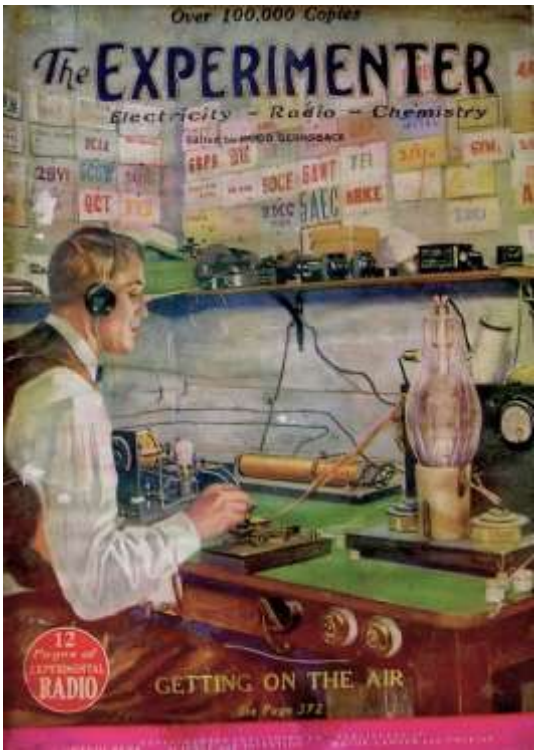
The SOCORAD32 is to launch on Crowd Supply soon, as a partly-assembled board needing only a speaker and battery to be fully-functional. Raji has also released an Arduino sketch for the project on GitHub under an unspecified open source license, but has not yet released hardware design files.

Features & Specifications

- UART configurations:
- 8 bit data
- 1 bit stop
- No parity
- CTS/RTS
- 9600 baud
- Frequency Range: 400 mhz - 470 mhz (covers most allocated license-free walkie-talkie bands internationally)
- Frequency Step: 5 K / 6.25 K / 12.5 K / 25 K
- RF Output Power: 2 W / 0.5 W (+5 KM @ 2 W)
- Voice Encryption (scrambling): 8 types
- Voice Compression/Expansion
- SMS Receive/Transmit
- CTCSS (38 group) + CDCSS (83 group)
- Automatic elimination tail
- Volume adjustable (1-8)
- SQ level adjustable (0-9)
- MIC sensitivity level adjustable (1-8)
- Sleep Mode (0.1 uA)

Open source 3D printable enclosure design files will also be provided for free.

HAM RADIO – EMERGENCY COMMUNICATIONS



When it comes to Survival Communications, Amateur Radio (known affectionally as Ham Radio) is the way to go. It has a number of real-world survival advantages over cell phones, the internet, CB,PFRS, and other radios or forms of communication.

To begin with, the knowledge that you will gain as a licensed ham radio operator will allow you to listen to and communicate with people throughout the world. While that might not sound important as you are receiving this article via the internet, during a disaster situation where the internet goes down and all other forms of communication fail, do you have a plan for gathering relevant survival-related information or making contact with those in your group or family?

In a survival situation, knowledge is a very valuable asset. The ability to know what's going on around you will be extremely important in just about any survival situation you might find yourself in. Having this knowledge will definitely give you a leg up in a survival situation.

With little power, and a minimal amount of equipment, Ham Radio allows you to communicate with other Hams, receive radio broadcasts from around the world, and gather important intel during times of crisis – even when cell towers and other forms of communication have failed.

In an emergency situation, you will be able to stay informed on what's going on locally, nationally, and worldwide. Even in today's modern age of high-tech gadgets, cell phones, and email, when the grid goes down it's often HAM Radio operators who still provide emergency communications until things return to normal.

During almost every major disaster, local officials rely heavily on Hams to coordinate rescues and organize search and rescue missions throughout the affected areas. And even if they do not, when regular communications systems like cellular networks, Internet access points, and public safety radio systems are compromised, ham radio can act as a substitute until normal communications have been repaired.

Why you need to be Licensed:

I often have people ask me if they really need to go through the hassle of becoming a licensed Amateur Radio Operator. Some people argue that during a SHTF situation having a License is meaningless. While this may be true, the knowledge that you'll obtain while studying to get your license is well worth the time and the effort.

You will learn things like the:

- The basics of how to operate your radio
- Which bands are open during different atmospheric conditions
- How to reliably use your radio during an emergency
- How to build a variety of basic antennas.

In my opinion, studying for the test and going through the process is the only way to ensure you'll be able to use these skills when it counts. You will be far better off learning these critical skills now instead of haphazardly trying to figure how to use your radio during an emergency situation.

If you are serious about survival communication, I strongly suggest that you look into becoming a Ham Radio Operator.

Radio Electronics Group Inc

NZART Branch - 89

Annual Equipment Sale

At Glenview Club Inc.

211 Peacocks Road Glenview
Note new road layout.
Hamilton

Saturday 21st May 2022

Vendors: 8-30am

Doors open 10am

Prebooked Tables $20
On the Day $25

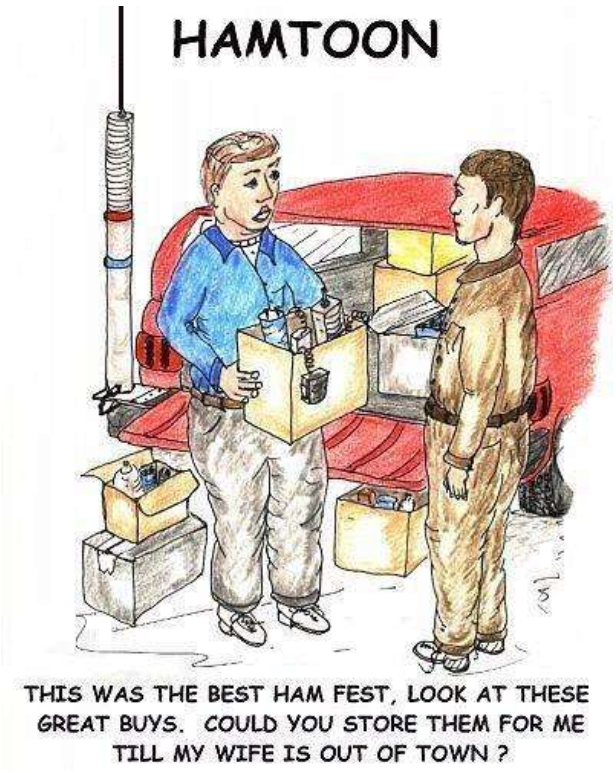
Public $2 Lucky Ticket Entry

Refreshments – Door prizes

Plenty of parking, Easy access, Motor Home Parking

For Vendor Regis\ration Form, Contact Vern ZL1TKG ZL1REGSALE@g mail.com

MULTIPLE RADIO DISORDER
YOU CAN NEVER HAVE ENOUGH



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	ZL1DK	David Karrasch	021 560 180
	ZL1IRC	Ian Clifford	021 082 48400
	ZL1ASN	Rolly Adams	021 042 7760
	ZL1RAH	Rodger Hanson	027 568 7659
	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)