

The Official Newsletter of the

PAPAKURA RADIO CLUB INC.

April 2020



And remember Daylight saving this weekend





Papakura Radio Club Inc.

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This Month's Meetings:

Due to the Lockdown of New Zealand by the Government, all club meetings that would have been face to face are now to be held on air or on-line.

As Radio Amateurs, we should be relying on our on-air infrastructure as a priority, rather than the internet, and this is the approach we have taken, so our first port of call for all meetings is the 690 repeater. We are aware, that there is potential for some to not have access to the repeater, and so we have a volunteer team monitoring the FM simplex call frequency of 146.475. If you cannot access the repeater, but wish to keep in touch, try the simplex frequency, and one of the committee is likely to come back to your call.

But unless we have an unexpected change, we are planning to have our Wednesday meeting on the 690 repeater at 7:30pm – A roll call will be taken on air at the end of the meeting, using the same model as used by the Sunday 6625 Net managed by the Auckland VHF Group. Please bring a 1-2 minute tip on how you cope. This will be new to all of us, so, bear with us as we try this out, it may be how we have meetings for some time, so we must learn how to make this work. And

REMEMBER DAYLIGHT SAVINGS ENDS 3am 5 APRIL - CLOCKs GO BACK ONE HOUR

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Minutes of General Meeting 4th March 2020 at 19.38 Clubrooms, Wellington Park.

President Gavin ZL1NUX welcomed 18 members who were present.

Apologies: ZL1RP, ZL1BNQ, ZL1WE, ZL1RAH, ZL1ING, ZL1ABR.

ZL1DK/ZL1FXR

Minutes of the February General meeting as printed in newsletter were reviewed.

Matters arising: Re Don Wallace ZL2TLL the ALO re buy/sell of prohibited radios. Does not apply to Kenwood, Icom or Yaesu radios, but a licence is required to buy/sell other types.

ZL1NUX/ZL1ASN

Inward Correspondence:

Newsletters from Branches 86

Westpac-00 \$2,240.00 Westpac Online account - \$7,815.43

NZ Post Box renewal \$180.00

Mercury Energy – change in power pricing IRD advising no cheques from March 1, 2020

Auckland AREC bank statement

Outward Correspondence: Nil

ZL1AOX/ZL1RIC

Finances: Dave ZL1MR reported that we had 23 paid up members

Previous statement \$2,240.00

Accounts to pay:

David ZL1DK seat cushions \$180.00 Ian ZL1AOX Fire extinguishers \$127.87 NZ Post Box renewal \$180.00

Subtotal less cheques not on statement \$1,752.13
Plus Savings Investment account \$7,815.43
Plus Savings Investment in ASB \$36,497.90
Total Funds \$46,065.46

General Business:

1. Meetings 2020:

March 4th: JWFD Report and Car boot sale reports

April 1st: Mike ZL4MDE – Satellite reception or Arduino

May 6th: Remits

- 2. Bushcomm antenna: East and West end posts installed. Centre pole next? Ian reported that join in centre pole required a reinforcing sleeve.
- 3. Papakura StreetFEST Saturday May 2^{nd} : Sub Committee of ZL1NUX, ZL1IRC, ZL1RIC & ZL1DK. Gavin suggested a fun day with a contest.
- 4. Project/activity nights 2020: To alternate project night with an activity night eg CW.
- 5. Fire Extinguishers: 1 x 2.5kg @ \$63.00, 2 x 1kg @ \$19.95 and Fire Blanket @ \$24.97 = total \$127.87 were purchased by Ian ZL1AOX for the Club.

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- 6. Bombay Fun Run 15th March: David ZL1DK reported that all was ready for the Fun Run.
- 7. Chair padding: David ZL1DK distributed the 15 new cushions to those requiring a softer chair.
- 8. PO Box for Club: After a short discussion on alternates, Gavin ZL1NUX moved and seconded by Jeremiah ZL1FXR *that we continue with the PO Box this year*. Carried
- 9. Branch 65 details need updating at NZART: Referred to Committee.
- 10. Hall Booked for Saturday March 28th (Healing Hands), Saturday 4th April (NZ First)
- 11. Silent Keys and old addresses require updating: Committee to action.
- 12. AREC Repeater on Kohukohunui: Dave ZL1MR and John ZL1BYZ will replace faulty filter on Friday 6th March.

Meeting closed at 20:29 and was followed by JWFD reports and Car Boot sale report. Supper followed.

Daylight saving

Daylight saving ends when clocks go back by 1 hour at 3am on 5 April 2020.





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CLUB ACTIVITY:

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

March

- Daily (except Sunday) 08:30 Wellbeing Net on 6.90 repeater
- Daily (except Sundays) 16:30 Wellbeing Net on 690 Repeater
- Sunday 08:30am Club VHF net on the 690 repeater
- Wednesday 1st April 690 Repeater An attempt at an on-air meeting, following general business, we will have a panel discussion (you) telling us one trick you are using to help manage the lockdown. So, prepare any personal strategy. Each talk to be less than 5 minutes 2-3 preferred.
- Wednesday 15th There will be committee meeting (method to be determined) Probably online Committee member will be phoned.

UPCOMING PROJECTS:

MORSE TRAINING EACH NIGHT FROM MONDAY 30™ OF MARCH - DAVID ZL1DK

Each night at 19:30 Local, David will be transmitting Morse (audio – LSB) on the Club HF frequency of 3.755 (80 Metres), if we can arrange it, this may be repeated on the 146.675 STSP repeater (Listen only) Following the transmission the message as sent will be read out, and you can self-mark.

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

UPCOMING ACTIVITIES:

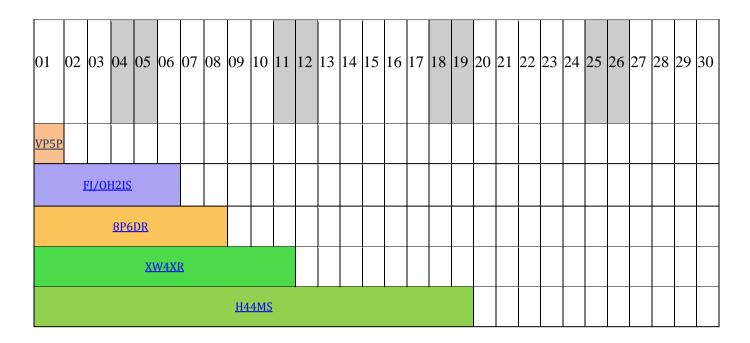
FACE TO FACE ON HOLD FOR DURATION OF LOCKDOWN

See above for on-Air activities

I just noticed two large bumps on my car battery. Had them tested and one came back positive. Hope it's not terminal.



DX CALENDAR APRIL 2020



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



Or check them out at DX News.com

NET FREQUENCIES OR FREQUENCIES TO USE IF YOU NEED ASSISTANCE

MONITORED DURING THE DAY

SIMPLEX FM CALL	RX 146.475	TX 146.475
690 REPEATER (BOMBAY)	RX 146.900	TX 146.100
HF (80 METRES) SIMPLEX	RX 3.755	TX 3.755

WHERE YOU MAY ALSO BE HEARD DURING THE DAY

6625 REPEATER (KLONDYKE)	RX 146.625	TX 146.025
670 REPEATER	RX 146.670	TX 146.070
5775 REPEATER (MUSICK PT)	RX 145.775	TX 145.175

UPCOMING CONTESTS - APRIL 2020

2 1 2 2 2 4 0 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1	2000	1 2	2100	Bands 3.5	Contest Name	Mode	Exchange	Sponsor's Website
2 1 2 2 2 4 0 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1	1700 1700	2		3.5				1 1 700
2 1 2 4 0 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1	1700			3.5	UKEICC 80-Meter Contest	Ph Ph	4-char grid square RS, serial, grid locator	ukeicc.com/80m-rules.php
2 20 4 00 4 10 4 13 4 14		2	2000 2100	3.5 28	SARL 80-Meter QSO Party NRAU 10-Meter Activity Contest	CW Ph Dig	RS, serial, grid locator RS(T), 6-char grid square	www.sarl.org.za nrau.net/activity-contests
4 1:		2	2200	1.8-50	SKCC Sprint Europe	CW	RST, SPC, name, mbr or power	www.skccgroup.com
4 1	0400	4	0800	7	LZ Open 40-Meter Sprint Contest	CW	Serial, serial received from last QSO	www.lzopen.com/lzocc40
4 1	1000	5	0400	14	PODXS 070 Club PSK 31 Flavors Contest	Dig	SPC, mbr or name	www.podxs070.com
	1300	5	0100	1.8-UHF	Nebraska QSO Party	CW Ph Dig	County or SPC (grid square on FT8)	www.arrl.org/sections/view/nebraska
	1400	5	0200	1.8-144	Louisiana QSO Party	CW Ph Dig	RS(T), Parish or SPC	laqp.louisianacontestclub.org
4 1	1400	5	0200	3.5-UHF	Mississippi QSO Party	CW Ph Dig	RS(T), county or SPC	www.arrlmiss.org w0ma.org/index.php/
4 1	1400	5	2000	1.8-UHF	Missouri QSO Party	CW Ph Dig	RS(T), county or SPC	missouri-aso-party
4 1	1400	5	2200	3.5-28	Florida State Parks on the Air	CW Ph Dig	Park ID or SPC	flspota.org/rules
	1500	5	1500	1.8-28	SP DX Contest	CW Ph	RS(T), Province or serial	spdxcontest.pzk.org.pl
4 1	1600	5	1600	3.5-28	EA RTTY Contest	Dig	RSQ, EA province or serial	concursos.ure.es/en/eartty/bases
5 0	0000	5	0400	3.5-14	North American SSB Sprint Contest	Ph	Other station's call, your call, serial, name, SPC	ssbsprint.com/rules
5 0	0600	5	1000	50	UBA Spring Contest, 6 Meters	CW Ph	RS(T), serial, UBA Section (if ON)	uba.be/hf/contest-rules
	1900	5	2030	3.5	RSGB RoLo SSB	Ph	RS, previous 6-char grid square received	www.rsgbcc.org/hf
6 0	0080	12	2000	All	IQRP Quarterly Marathon	CW Ph Dig	RS(T)	www.arimontebelluna.it
6 1	1900	6	2030	3.5	RSGB 80-Meter Club Championship, CW	CW	RST, serial	www.rsgbcc.org/hf
6 1	1900	6	2300	144	144 MHz Spring Sprint	CW Ph Dig	4-char grid square	sites.google.com/site/ springvhfupsprints
7 0	0100	7	0300	3.5-28	ARS Spartan Sprint	CW	RST, SPC, power	arsgrp.blogspot.com
11 0	0000	11	2359	1.8-28	QRP ARCI Spring QSO Party	CW	RS, SPC, mbr or power	qrparci.org/contests
		12	1300	1.8-28	JIDX CW Contest	CW	RST, Prefecture number or CQ zone	jidx.org/jidxrule-e.html
11 1:	1200	12	1200	1.8-28 3.5-28,	OK/OM DX Contest, SSB	Ph	RS, 3-letter OK/OM county code or serial	okomdx.crk.cz
		12	1200	144	F9AA Cup, PSK	Dig	RST, serial	www.site.urc.asso.fr
	1200		1200	3.5-28	FTn DX Contest	Dig	RST, US state or VE province or serial	europeanft8club.wordpress.com
	1200 1400	12	2359 0200	1.8-50 1.8-50	SKCC Weekend Sprintathon New Mexico QSO Party	CW CW Ph Dig	RST, SPC, name, mbr or "none" Name, county or SPC	www.skccgroup.com www.newmexicogsoparty.org
		12	1800	1.8-144	North Dakota QSO Party	CW FII DIG	RS(T), county or SPC	ndarrisec.com
	1800		2359	1.8-50	Georgia QSO Party	CW Ph	RST, county or SPC	www.georgiagsoparty.org
11 2	2100	12	2100	1.8-28, satellites	Yuri Gagarin International DX Contest	CW	RST, ITU zone	gc.qst.ru/en/section/32
12 1	1000	12	2200	3.5-14	WAB 3.5/7/14 MHz Data Modes	Dig	RS, serial, WAB square or country	wab.intermip.net/Contests.php
		12	1800	3.5-7	International Vintage Contest HF	CW Ph	RS(T) 4-char grid square	contestvintage.beepworld.it
12 1	1500	12	1600	3.5	Hungarian Straight Key Contest	CW	RST, serial, power code	hskc.ha8kux.com
13 0	0000	13	0200	1.8-28	4 States QRP Group Second Sunday Sprint	CW Ph	RS(T), SPC, mbr or power	www.4sqrp.com
14 1	1900	14	2300	222	222 MHz Spring Sprint	CW Ph Dig	4-char grid square	sites.google.com/site/ springvhfupsprints
15 0	0030	15	0230	3.5-14	NAQCC CW Sprint	CW	RST, SPC, mbr or power	naqcc.info
15 1	1900	15	2030	3.5	RSGB 80-Meter Club Championship, SSB	Ph	RS, serial	www.rsgbcc.org/hf
17 2	2100	18	2100	1.8-28	Holyland DX Contest	CW Ph Dig	RS(T), 4X area or serial	iarc.org/iarc/#HolylandContest
18 0	0500	18	0859	3.5-7	ES Open HF Championship	CW Ph	RS(T), serial	erau.ee/en/es-open-contests
18 0	0600	19	0559	3.5-28	Worked All Provinces of China DX Contest	CW Ph	RS(T), BY province or serial	www.mulandxc.org
	0700		0659	3.5-28	YU DX Contest	CW Ph	RS(T), YU/YT county or serial	www.yudx.yu1srs.org.rs
		18	1800	3.5-21	QRP to the Field	CW Ph	RST, SPC, name or SOTA	www.zianet.com/qrp/qrpttf
)900 1400	19 19	2359 2000	3.5-28 All	CQMM DX Contest Texas State Parks on the Air	CW CW Ph Dig	RST, continent, category code RS(T), park or SPC	www.cqmmdx.com/rules www.tspota.org/rules
	1600		0400	3.5-28	Michigan QSO Party	CW Ph Dig	Serial, county or SPC	www.tspota.org/rules www.migp.org/Rules.htm
		19	1300	3.5-28	EA-QRP CW Contest	CW	RST, category code	www.eaqrp.com
18 18	1800	18	2159	1.8-50	Feld Hell Sprint	Dig	RST, mbr, SPC, grid	sites.google.com/site/feldhellclub
	1800		1800	1.8-144	Ontario QSO Party	CW Ph	RS(T), ON county or SPC	va3cco.com/oqp/rules.htm
		20	0300 0200	1.8-28	Run for the Bacon QRP Contest SKCC Sprint	CW	RST, SPC, mbr/power	qrpcontest.com/pigrun www.skccgroup.com
	1900		2300	1.8-28 432	432 MHz Spring Sprint	CW Ph Dig	RST, SPC, name, mbr or power 4-char grid square	sites.google.com/site/
					RSGB 80-Meter Club	J	Ů Í	springvhfupsprints
		23	2030	3.5	Championship, Data 10-10 International Spring	Dig	RST, serial	www.rsgbcc.org/hf
		26	2359	28	Contest, Digital	Dig	Name, mbr or "0," SPC	www.ten-ten.org
		26	1200	3.5-28	SP DX RTTY Contest	Dig CW Ph Dig	RST, 2-letter SP province or serial	pkrvg.org/strona,spdxrttyen.html
		26 26	1259 2159	1.8-28 7-28	Helvetia Contest Florida QSO Party	CW Ph Dig CW Ph	RS(T), 2-letter HB canton or serial RS(T), county or SPC	www.uska.ch floridaqsoparty.org/rules
		26	2059	3.5-28	BARTG Sprint 75	Dig	Serial	bartg.org.uk
26 1	1300		0400	1.8-28	QCX Challenge	CW	RST, name, SPC, rig	qrp-labs.com/party.html
	1300				UKEICC 80-Meter Contest	CW	4-char grid square	ukeicc.com/80m-rules.php

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.

RAMBLINGS FROM THE EDITORS DESK

How do you put out a newsletter full of interesting news, when the only story everyone is talking about is a virus?

Well challenge accepted, and here goes my best attempt, naturally I can't avoid the topic of being shut in, or the need to cancel all of our meetings, but it does not mean I need to be telling you what you know, or that I have to take it too seriously, So I have a liberal sprinkling of humour, some out of this world news, and a total lack of club news.



So, yes Club meetings have, of course, been <u>cancelled</u>, and we have a total shortage of reports and activities, But we did manage to build some antennas before we were shut down, so its been good to hear a few up on 2 metres.

Thanks to a suggestion by David ZL1DK, a "Wellbeing Net" started on the 690 repeater has been very well attended, and most mornings have seen over 16 attendees, It would be awesome to see it grow to over 20, so don't feel its too big, just join in, and enjoy the company. It's a great way to start the day.

I did not realise until this just how much Ham radio as a hobby has actually impacted

my life, It's hard to believe but as I write this Ann-Maree and I have held an operating license for 3 years, and we are just entering year 4, yet we have an awesome station, great friends, and every morning as I commuted to the office for the day, we have a drivetime net that had just become a part of every morning routine, Then it was gone as I started to work from home to see if we could, Then Whammo!!! – Lockdown!

But thanks to Dave's idea, and a large number of others, we have an incredible number of contacts every morning who can talk through the concerns or challenges of the shut-down, Even better we have been able to actually provide real help to others by shopping or collecting items they couldn't get, and that's more than just hobby or even friendship, Its family, and how cool to be able to help your mates and fellow hams.

Me after washing my hands for 20 seconds 126 times in one day



1960

I do have to admit, the constant hand washing, even at home is getting tiresome, but that was nothing compared to getting groceries at the supermarkets, Man I missed the butchery and green grocers. And real meat sausages. Fresh made while I wait... *Getting Hungry now*.

Of course, we can't buy connectors, or get to a junk sale to get some, and I have completely run out of BNC connectors and adapters so its getting interesting as I try to monitor all the repeaters at once, But traffic is up and activity has definitely increased, on all the repeaters, Even the 6 metre one. And we are even seeing some of go back to simplex contacts – HOW AWESOME IS THAT !!!

Anyone feel like some VHF SSB ... Just for fun???

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So I have found the radios a great sense of the normal, Hearing voices I know in the distance, is a lot like being in the office, and when I take a break I find someone to chat to, But sadly there are also those who, Like the great toilet paper war of early 2020 feel the need to horde every resource, who think that repeaters should not be used, and feel the need to police in the absence of any actual crime.



Given how hard it to get hand sanitiser, and with the endless warnings about touching your face being broadcast in an endless loop, (does anyone else watching the news feel like your living in the endless loop of your very own groundhog day?) I have considered swapping all the bottles of sanitiser here out with hot sauce, I'm sure you would only touch your eyes once ... Ok maybe not.

Naturally, I am the sort of person who likes to make fun of a difficult situation, and as many of you know I have my own warped humour, Like walking down the street coughing loudly, and someone asks if I'm ok, I stop immediately, smile and say, "Jacinda said, if I go out. No matter how well I feel, I have to act like I have the virus How well did I do?" Most people haven't seen it in the same light, so they don't let me out much now, Although the following really tickles my fancy, anyone got a suit? (I want a yellow one)

Who wants to buy one of these suits with me and run into a crowded supermarket screaming "Which way did he go!!!"



The simple reality is that this too is simply a natural reaction to stress, and we need to show them the same kindness, not everyone feels the need to chat, or to talk about what's happening.

Be kind, be polite. But don't stop keeping in contact, all humans need contact.

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In any emergency, there are three reactions, Those who rush in, those who run away, and those who are frozen and don't know what to do, so if you do encounter this, just be kind, and if you can move to a simplex do so, But if you can't work simplex, then politely continue using good etiquette, three second gaps, and short overs, in case someone does need the repeater.

If we all work together, just like the shops, there is plenty of resource to go around. This is why we will be trying to stay on the 690 repeater, rather than the 6625, for nets and meetings, as the coverage of 6625 is best left for those who need to work widely, Better we take care of our locals.

And remember, as Graham ZL1AU shared with me. You can't get the virus via a QSO ... Too right Graham, hope to catch you on air soon too.

One of the challenges for me is that I am still working, and its surprisingly hard to actually work from home,





There are a thousand little things that you could do easily in the office, that you cannot do at home, Not to mention the coffee, and power bills will be horrendous this month, but on the other side, I don't have the daily commute. This makes me one of the lucky ones who has managed to keep his job, and sadly there will be many businesses that will not be back post lockdown, When the dust all settles, we may have to ask if the cure was possibly worse than the disease, But that aside, we needed a plan, and we have one, Whether we agree or not, we have to follow it, or the plan will not work. Its really that simple.

In the same way, we as a club are having to make decisions that will not work for everyone, and there is a chance that some will feel left out, or cut off, Please communicate these, We have an imperfect plan, and we may have to change it, But we needed to do something, and we made it with the best of intentions, If you contribute, join in and contribute suggestions, we may be able to improve it, but its up to you to continue, you can hoard your resources, and hope to survive in isolation, or you can be part of the solution and help us make it better, This can bring out our best, or our worst ... It's up to us.

But I'm going to try each day to do one small kindness, and have at least one QSO ... Just for fun. If you need me, I'm listening 6625, 690 and 146.475 FM simplex, also 53.725 (Tx 52.725), and of course my phone number is on the Back page – Shopping and Taxi services are available if required, or a chat if you need it

Look after yourself, and each other. 73 Catch you on air. Gavin ZL1NUX

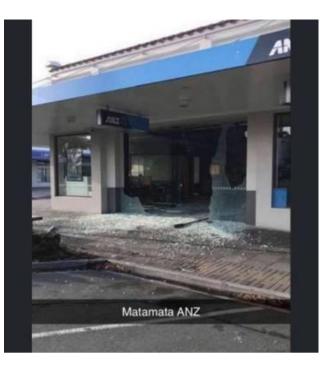


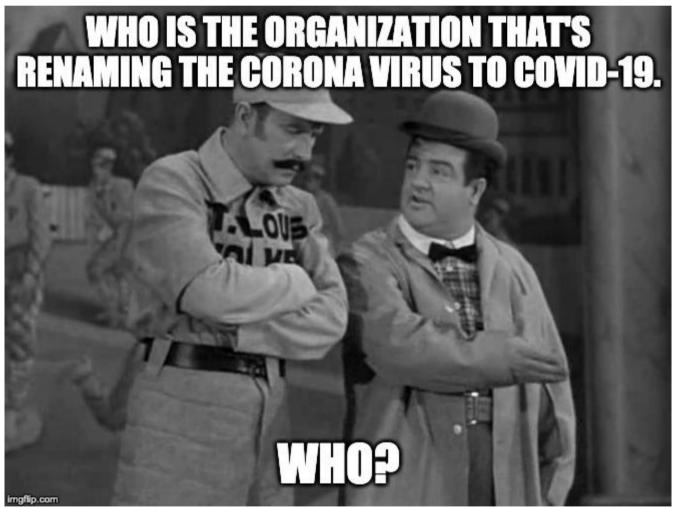
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GEEKY RADIO NEWS

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

GRAPHENE ALLOWS FOR NEW TERAHERTZ HETERODYNE DETECTORS

Researchers from Chalmers University of Technology have demonstrated a detector made from graphene that could revolutionize the sensors used in next-generation space telescopes

"Graphene might be the only known material that remains an excellent conductor of electricity/heat even when having, effectively, no electrons. We have reached a near zero-electron scenario in graphene, also called Dirac point, by assembling electron-accepting molecules on its surface. Our results show that graphene is an exceptionally good material for THz heterodyne detection when doped to the Dirac point," says Samuel Lara-Avila, assistant professor at the Quantum Device Physics Laboratory and lead author of the paper recently published in Nature Magazine.



In detail, the experimental demonstration involves heterodyne detection, in which two signals are combined, or mixed, using graphene. One signal is a high intensity wave at a known THz frequency, generated by a local source (i.e. a local oscillator). The second is a faint THz signal that mimics the waves coming from space. Graphene mixes these signals and then produces an output wave at a much lower gigahertz (GHz) frequency, called the intermediate frequency, that can be analysed with standard low noise gigahertz electronics. The higher the intermediate frequency can be, the higher bandwidth the detector is said to have, required to accurately identify motions inside the celestial objects.

Sergey Cherednichenko, professor at the Terahertz and Millimetre Wave Laboratory and co-author of the paper, says:

"According to our theoretical model, this graphene THz detector has a potential to reach quantum-limited operation for the important 1-5 THz spectral range. Moreover, the bandwidth can exceed 20 GHz, larger than 5 GHz that the state-of-the-art technology has to offer."

Another crucial aspect for the graphene THz detector is the extremely low power needed for the local oscillator to achieve a trustable detection of faint THz signals, few orders of magnitude lower than superconductors require. This could enable quantum-limited THz coherent detector arrays, hence opening the door to 3D imaging of the universe. – Now That's cool – Even for Non-Nerds.

Day 3 without sports...
Found a lady sitting on my couch yesterday. Apparently she's my wife.
She seems nice.

SCIENTISTS FIND RADIO WAVES FROM SPACE PULSING IN 16-DAY PATTERN

Scientists in Canada have identified a powerful radio signal coming from some 500 million light years from Earth, which broadcasts in a 16-day cycle, the first time they have seen these kinds of signals in a repeating pattern.

These are the first Fast Radio Bursts (FRB's) to show periodicity, the researchers wrote in a paper published at the end of January and expressed hope this could help identify the source of these mysterious signals.

FRBs, first detected in 2007, are massive blasts of radio signals that have been detected coming from different directions of deep space. Not usually lasting for longer than a few milliseconds — and sometimes just fractions of that time — they are one of the most mysterious phenomenon in space research with astronomers unable to tell what is causing them, if they repeat, or are just a one-off event. Less than 200 have been detected.

Between September 2018 and October 2019 researchers at the Canadian Hydrogen Intensity Mapping Experiment Fast Radio Burst Project watched a particular FRB and observed the pattern of its signals.

"We conclude that this is the first detected periodicity of any kind in an FRB source," the researchers wrote in their report.

"The discovery of a 16.35-day periodicity in a repeating FRB source is an important clue to the nature of this object," they said.

But Most importantly, it also means, It's probably not aliens ... In fact, it's never Aliens ... Until it is.

A QUANTUM SENSOR THAT COVERS ENTIRE RADIO FREQUENCY SPECTRUM

A quantum sensor could give Soldiers a way to detect communication signals over the entire radio frequency spectrum, from 0 to 100 GHz, said researchers from the Army.

Such wide spectral coverage by a single antenna is impossible with a traditional receiver system, and would require multiple systems of individual antennas, amplifiers and other components.

In 2018, Army scientists were the first in the world to create a quantum receiver that uses highly excited, super-sensitive atoms -- known as Rydberg atoms -- to detect communications signals, said David Meyer, a scientist at the U.S. Army Combat Capabilities Development Command's Army Research Laboratory. The researchers calculated the receiver's channel capacity, or rate of data transmission, based on fundamental principles, and then achieved that performance experimentally in their lab -- improving on other groups' results by orders of magnitude, Meyer said.

"These new sensors can be very small and virtually undetectable, giving Soldiers a disruptive advantage," Meyer said. "Rydberg-atom based sensors have only recently been considered for general electric field sensing applications, including as a communications receiver. While Rydberg atoms are known to be broadly sensitive, a quantitative description of the sensitivity over the entire operational range has never been done."

To assess potential applications, Army scientists conducted an analysis of the Rydberg sensor's sensitivity to oscillating electric fields over an enormous range of frequencies -- from 0 to 1012 Hertz. The results show that the Rydberg sensor can reliably detect signals over the entire spectrum and compare favourably with other established electric field sensor technologies, such as electro-optic crystals and dipole antenna-coupled passive electronics.

"Quantum mechanics allows us to know the sensor calibration and ultimate performance to a very high degree, and it's identical for every sensor," Meyer said. "This result is an important step in determining how this system could be used in the field."

This work supports the Army's modernization priorities in next-generation computer networks and assured position, navigation and timing, as it could potentially influence novel communications concepts or approaches to detection of RF signals for geolocation.

In the future, Army scientists will investigate methods to continue to improve the sensitivity to detect even weaker signals and expand detection protocols for more complicated waveforms.

Now I just need to convince the US army to let me put one in my car



Might need a few less aerials

HAM RADIO INTEREST SOARS AS OUTBREAK GRIPS US

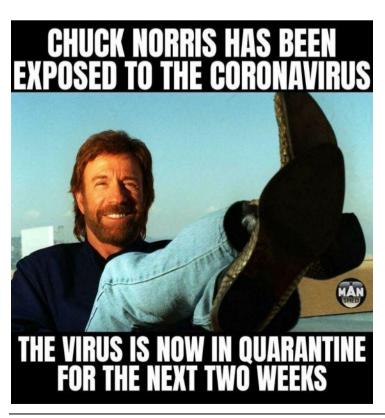
More than 765,000 US citizens hold a Transmitting License, and the uptake rate has risen with an increase of 7.1% higher in 2020 than 2019, But training classes have had a 700% increase in attendance, so there may be lot more US contacts on offer once the solar cycle 25 sunspots start firing up.

Remember when everyone laughed at preppers? But that was before the toilet paper wars ... Back in the old days











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SEEN OR HEARD AROUND THE SCENES

LOTA - LOCKDOWNS ON THE AIR.

Since POTA, SOTA and HOTA are all on hold, some enterprising types have come up with LOTA,

Hi all,

Mark ZL3AB and I discussed this briefly this morning as a way to encourage MF/HF Amateur Radio activity during the COVID19 lockdown and beyond. For those that weren't around in 2016 when it last ran, participants try to make at least 4 QSOs per day on the MF/HF bands (630m - 6m) for the rest of the year.

Any mode, any power, your choice. Certificates (pdf) are your sole reward - and of course bragging rights!

Lee ZL2AL was a passionate participant and supporter of Amateur Radio in ZL and beyond and the activity is named in his honour. Please let me know ASAP if you would be interested in taking part and we'll get it organised and information out smartly (this week).

Mark is one of the few who is actually far busier now than two weeks ago so is taking a back seat this time. He will be behind the scenes guiding me though!

If enough people are interested, we could kick it off at 0000z on Saturday leaving 270 days activity available!

I look forward to hearing from you, it's a lot of fun and last time generated lots of friendly rivalry between mates :-) Please feel free to cross-post to other ZL mailing lists.

73
Geoff ZL3GA
zl3ga at nzart.org.nz http://nzart.org.nz

ITEMS FOR SALE

Since they did not sell at the boot sale, please note that Boris – ZL1TBE has for sale an ICOM 730 needing a new home to make space for the shiny new 7300, It's a good worker which has been heard on air a lot during nets, and still has a lot of life left in it.

Asking price is \$250

Also, an MFJ 949 Tuner, it's as new and covers the entire HF Band from 160 to 10 metres. The Large crossing needles of the SWR meter make checking performance a breeze, and with 2 coax inputs and a balanced input it's also an antenna switch.

Asking Price is \$250





CANCELLED

DON'T FORGET, IF YOU HAVE ANY ITEMS OF NEWS, LET US KNOW ABOUT IT HERE

FUN FACT:

There is a town named corona in California, Where they prefer to call it the Wahun Virus, I Wonder Why?

NEW AND USED CALLSIGNS TO COLLECT

One possible benefit of the forced isolation has to be the number of callsigns on air that I have never heard before, There are, of course, new operators, but also a large number of operators who have not been on air for years, Dusting of equipment, putting up an antenna (or hiding it in a bush) and calling out on the repeaters.

Let's make sure we welcome them back

Paranoia has reached absurd stages...

I sneezed in front of my laptop and the anti-virus started a scan on its own







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SOME NETS - FOR WHEN YOU ARE LOOKING FOR COMPANY

Day	Time (Local)	Freq (MHz)	Group
Sunday	08:00	3.750	Southern Net
	09:00	3.700	Bch 10. Franklin.
	09:00	3.755	Bch 65. Papakura.
	16:00	7.125	SPAM Net (AM Mode)
	19:00	146.900	YL Net
	20:00	3.710	Bch 42. Titahi Bay
	21:30	3.595	Duran WIA Net.
	21:30	3.595	VK2WI
Monday	19:30	3.757	Bch 12. Hamilton
	20.00	3.540	CW Practice Net
	20:00	3.687	Br 80. Hibiscus Coast
	20:00	3.695	W.A.R.O
	20:30	3.870	O.T.C (Old Timers Club)
Tuesday	09:00	7.096	Ex Post Office Techs
	21:00	1.850	160m Net _ Ron ZL4JMF
	19:30	3.690	QRP ZL2BH
	20:00	3.581	CW improvers Net
M/ 1 1	20.00	2.660	
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
Thursday	19:30	3.690	QRP ZL2BH
	20:00	3.540	CW Practice Net
	20:00	3.615	Bch 89. REG
	20:30	3.696	ZL10A
	20:30	3.666	LF Net ZL2CA
	20:00	3.690	ZL QRP SSB Net
		0.000	
Friday	20:00	3.850	SPAM (AM Mode)
/	20:30	3.650	W.S.R.C.
	20:30	3.560	Digital Modes Net
Saturday	10:30	28.530	10-10 Down Under
	19:30	3.650	Christian Fellowship
	20:00	3.760	???
	20:30	3.600	Ch 62. Reefton/Buller
Daily or Other	07:30	3.696	ZL2OA
	08:30	3.730	ZL3RP
	15:00	14.300	Pacific Seafarers
	17:30	3.760	Home Brew
	17:30	14.183	ANZA DX Net
	18:00	7.115	VK70B
	19:30	3.720	ZL1MO
	18:30	3.766	ZL3LE
	08:30/20:00	3.730	ZL3RP
	20:30	3.725	ZL2HN / ZL4RF
L	21:00	3.677	Counties Net ZL2MA

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

Also: Calling Frequencies: Daily Sunset-Sunrise 3580 USB NZ FSQCall Courtesy of Murray ZL1BPU Daily Sunrise-Sunset 7105 USB NZ FSQCall

Daily 24/7 7104 USB International FSQCall

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

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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	Ph 09 299 3415	021 1046946
Vice President	ZL1BNQ	Richard Gamble	Ph 09 5371238	021 729270
Secretary	ZL1AOX	Ian Ashley	Ph 09 2981810	021 1981810
Treasurer	ZL1MR	David Wilkins	Ph 09 2999346	021 1857903
Committee	ZL1RJS	Rob Stokes	Ph 09 2961152	021 307005
	ZL1IRC	Ian Clifford	Ph	021 8248400
	ZL1ASN	Rolly Adams	Ph 09 2966107	021 0427760
	ZL1DK	David Karrasch	Ph 09 296 8264	021 560180
	ZL1RIC	Ricky Hodge		021 666421
AREC Section Leader	ZL1BNQ	Richard Gamble	Ph 09 5371238	021 729270
CD Liaison	ZL1AOX	Ian Ashley	Ph 09 2981810	021 1981810
Newsletter Editor	ZL1NUX	Gavin Denby	Ph 09 299 3415	021 459 192
Hall Custodian	ZL1AOX	Ian Ashley	Ph 09 2981810	021 1981810
Newsletter.	Contact: zl1	lnux@outlook.com		

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

Meetings

General Meetings are held at the Club rooms on the 1st Wednesday of each month, starting at 7.30pm. Look at your calendar and mark these nights. The speaker follows the General Meeting.

Project Evenings are on the 4th Wednesday of each month.

Committee Meetings are held on 3rd Wednesday of each month at 7.30pm, unless advised.

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

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

AGM: Held in November

Subscription: Full membership and newsletter \$20.00

Family Membership and newsletter \$30.00

Student or Country DX membership \$10.00

Bank Account number: 03-0399-0019896-00

Working Bees As required.

Branch 65 21 Award: For contacts with ZL1VK (5 Points) and 8 Papakura Radio Club Members (2 Points each) after January 2011. Total 21 Points. Cost \$5-00. Certified list and \$5-00 to Secretary, Papakura Radio Club. Address above.

ZL1VK Club Nets

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

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

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