The Official Newsletter of the

# PAPAKURA RADIO CLUB INC.

*June 2021*


*June 21 – Winter Solstice – Shortest Day*


# CONTENTS ...



## This Month's Meetings:

Wednesday 2 June will be our general meeting at the clubrooms, Following general business we will discuss the NZART remit, and then Ian ZL1IRC will be discussing the MESH Network Project

# Meetings for June.

Meetings will only occur at alert level 2 or lower. We cannot have social meetings at level 3. This means we will only open the clubrooms on Wednesdays when at we at alert levels 1 or 2 in accordance with current government guidelines.

Wed 2 June – General Meeting & Mesh Networking by ZL1IRC
Wed 9 June – Activity Nigh – TBC
Wed 16 June – Committee Meeting
Wed 23 June – Project Night
Wed 30 June – AREC Night

# CLUB ACTIVITY:

Members from the club attended the Papakura Street Fest in May, and the public response was very good – Watch out for some ham crams coming soon.

# UPCOMING PROJECTS:

## PROJECT AND ACTIVITY NIGHTS

Project nights have been building Flowerpot antenna's with same six metre antenna's in development. Listen out on 53.725 repeater for some new voices soon – We Hope. We will also, later, be building some satellite antenna designs for working off the ISS or other satellites. Also an updated version of the flower pot Portable VFH/UHF ground independent dual band antenna

We have an offer of Arduino programming classes later in the year, (we have some parts to order) so watch this pace for dates. Arduino boards are small but powerful boards with many applications in Ham Radio, and other electronic applications

And we have a DC power distribution project, still in the pipeline. – So a busy year if you chose to be part of it.

# UPCOMING ACTIVITIES:


(ALERT LEVELS PERMITTING)
WEDNESDAY 2 JUNE – GENERAL MEETING
WEDNESDAY 9 JUNE – ACTIVITY NIGHT
WEDNESDAY 16 JUNE – COMMITTEE MEETING
WEDNESDAY 23 JUNE – PROJECT NIGHT
WEDNESDAY 30 JUNE – AREC NIGHT

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

# DX Calendar June 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TO3F FM/OQ3R | | | | | | | | JD1BLY | | | | | | | | | | | | | | J88PI | | | | | | | |
| JG8NQJ/JD1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | VP2V/NC3Z | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6O1OO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| KC4USV | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T5/IT9HRK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A35JP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

**A35JP Tongatapu Island**

Masa, JA0RQV will be active again as A35JP from Tongatapu Island, IOTA OC - 049, from the end of May to October 2021.
He will operate on 80 - 6m, CW, SSB, FT8.

**KC4USV McMurdo station Ross Island**

KC4USV will be activefrom McMurdo Station, Ross Island, IOTA AN - 011, until 31 October 2021.
Team - W5MED, W4BZB, KF0BHU.
They will operate on 40 and 20m. Frequencies: 4243 and 7175 SSB and 14074 and 7074 FT8.
QSL via K7MT, LOTW.

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

DX news.com More than just DX News

Or check them out at DX News.com

# CONTESTS JUNE 2021

| Date-Time | | Date-Time | | Bands | Contest Name | Mode | Exchange | Sponsor's Website |
|---|---|---|---|---|---|---|---|---|
| 1 | 0100 | 1 | 0159 | 1.8-50 | Worldwide Sideband Activity Contest | Ph | RS, age group (OM, YL, or youth) | wwsac.com/rules.html |
| 1 | 1700 | 1 | 1900 | 3.5-14 | RTTYops Weeksprint | Dig | Other's call, your call, serial, name | rttyops.wordpress.com |
| 2 | 1300 | 2 | 1400 | 1.8-28 | CWops Mini-CWT Test | CW | Name, mbr or SPC | cwops.org/cwops-tests |
| 2 | 1700 | 2 | 2000 | 144 | VHF-UHF FT8 Activity Contest | Dig | 4-char grid square | ft8activity.eu/index.php/en |
| 2 | 1900 | 2 | 2000 | 1.8-28 | CWops Mini-CWT Test | CW | Name, mbr or SPC | cwops.org/cwops-tests |
| 3 | 0300 | 3 | 0400 | 1.8-28 | CWops Mini-CWT Test | CW | Name, mbr or SPC | cwops.org/cwops-tests |
| 3 | 1700 | 3 | 2100 | 28 | NRAU 10-Meter Activity Contest | CW Ph Dig | RS(T), 6-char grid square | nrrlcontest.no |
| 3 | 1900 | 3 | 2100 | 1.8-50 | SKCC Sprint Europe | CW | RST, SPC, name, mbr or "none" | www.skccgroup.com |
| 4 | 0000 | 6 | 2359 | 1.8-50 | PODXS 070 Club 3-Day Weekend Test | Dig | Name, RST, SPC | www.podxs070.com |
| 4 | 0145 | 4 | 0215 | 1.8-21 | NCCC RTTY Sprint | Dig | Serial, name, QTH | www.ncccsprint.com |
| 4 | 0230 | 4 | 0300 | 1.8-21 | NCCC Sprint | CW | Serial, name, QTH | www.ncccsprint.com |
| 4 | 2000 | 4 | 2100 | 1.8-14 | K1USN Slow Speed Test | CW | 20 WPM max. Name, SPC | k1usn.com/sst.html |
| 5 | 0000 | 5 | 2359 | 3.5-28 | VK Shires Contest | CW Ph | RS(T), VK Shire or CQ zone | wia.org.au/members/contests |
| 5 | 0000 | 6 | 2359 | 28 | 10-10 International Open Season PSK Contest | Dig | Name, SPC, mbr | www.ten-ten.org |
| 5 | 0400 | 6 | 2000 | 3.5-28 | DigiFest | Dig | RST, 4-char grid square | rigexpert.com/digifest |
| 5 | 0600 | 5 | 0800 | 7, 14 | Wake-Up! QRP Sprint | CW | RST, serial, suffix of previous QSO | qrp.ru/contest/wakeup |
| 5 | 0600 | 6 | 0600 | 1.8-UHF | KANHAM Contest | CW Ph | RST, prefecture (if JA) | jarl.gr.jp/kanhamcontest/en |
| 5 | 1200 | 6 | 1159 | 1.8-28 | Tisza Cup CW Contest | CW | RST, CQ zone | tiszacup.eu/index.php/en |
| 5 | 1300 | 6 | 1300 | 50 | UKSMG Summer Contest | CW Ph | RST, serial, 6-char grid | uksmg.org |
| 5 | 1400 | 6 | 0200 | 1.8-144 | Kentucky QSO Party | CW Ph Dig | RS(T), KY county or SPC | www.kyqsoparty.org/rules |
| 5 | 1500 | 6 | 1500 | 1.8-28 | RSGB National Field Day | CW | RST, serial | www.rsgbcc.org/hf |
| 6 | 1700 | 6 | 2200 | All | Cookie Crumble QRP Contest | CW Ph Dig | RS(T), SPC, cookie #, name | w3atb.com/cookie-crumble |
| 7 | 1900 | 7 | 2030 | 3.5 | RSGB 80-Meter Club Championship, Data | Dig | RST, serial | www.rsgbcc.org/hf |
| 8 | 0100 | 8 | 0300 | 3.5-28 | ARS Spartan Sprint | CW | RST, SPC, power | arsqrp.blogspot.com |
| 9 | 0030 | 9 | 0230 | 3.5-14 | NAQCC CW Sprint | CW | RST, SPC, mbr or power | naqcc.info |
| 9 | 1700 | 9 | 2000 | 432 | VHF-UHF FT8 Activity Contest | Dig | 4-char grid square | ft8activity.eu/index.php/en |
| 12 | 0000 | 13 | 1559 | 3.5-28 | DRCG WW RTTY Contest | Dig | RST, CQ zone | www.drcg.de/drcgww |
| 12 | 0000 | 13 | 2359 | 50 | SMIRK Contest | CW Ph | 4-char grid square, mbr | smirk.org/contest.html |
| 12 | 1100 | 12 | 1300 | 14, 21 | Asia-Pacific Sprint, SSB | Ph | RS, serial | jsfc.org/apsprint/aprule.txt |
| 12 | 1200 | 13 | 1200 | 3.5-28 | Portugal Day Contest | CW Ph | RS(T), CT district or serial | portugaldaycontest.rep.pt |
| 12 | 1200 | 13 | 2359 | 1.8-50 | SKCC Weekend Sprintathon | CW | RST, SPC, name, mbr or "none" | www.skccgroup.com |
| 12 | 1400 | 12 | 1800 | 144, 432 | AGCW VHF/UHF Contest | CW | RST, serial, power, 6-char grid | alt.agcw.de/index.php/en |
| 12 | 1500 | 13 | 1500 | 3.5-28 | GACW WWSA CW DX Contest | CW | RST, CQ zone | contest.com.ar/gacw-wwsa |
| 12 | 1600 | 13 | 1600 | 50 | REF DDFM 6-Meter Contest | CW Ph | RS(T), serial, 4-char grid | concours.r-e-f.org |
| 12 | 1800 | 14 | 0259 | 50 and up | ARRL June VHF Contest | CW Ph Dig | 4-char grid square | www.arrl.org/june-vhf |
| 14 | 0000 | 14 | 0200 | 1.8-28 | 4 States QRP Group 2nd Sunday Sprint | CW Ph | RS(T), SPC, mbr or power | www.4sqrp.com |
| 16 | 0030 | 16 | 0230 | 3.5-14 | NAQCC CW Sprint | CW | RST, SPC, mbr or power | naqcc.info |
| 16 | 1200 | 16 | 1400 | 7 | SARL Youth Sprint | Ph | RS, | www.sarl.org.za |
| 16 | 1900 | 16 | 2030 | 3.5 | RSGB 80-Meter Club Championship, CW | CW | RST, serial | www.rsgbcc.org/hf |
| 19 | 0000 | 20 | 2359 | 1.8-28 | All Asian DX Contest, CW | CW | RST, | www.jarl.org/English |
| 19 | 1200 | 20 | 1159 | 3.5-28 | Ukrainian DX Classic RTTY Contest | Dig | RST, 2-letter oblast or serial | urdxc.org/rtty/eng.htm |
| 19 | 1400 | 20 | 1400 | 50, 70 | IARU Region 1 50/70 MHz Contest | CW Ph Dig | RS(T), serial, 6-char grid | www.iaru-r1.org |
| 19 | 1500 | 20 | 1500 | 1.8 | Stew Perry Topband Challenge | CW | 4-char grid square | www.kkn.net/stew |
| 19 | 1600 | 20 | 0400 | 3.5-28 | West Virginia QSO Party | CW Ph Dig | RS(T), WV county or SPC | www.qsl.net/wvsarc |
| 19 | 1800 | 19 | 1959 | 1.8-50 | Feld Hell Sprint | Dig | RST, mbr SPC, grid | sites.google.com/site/feldhellclub |
| 19 | 1800 | 19 | 2359 | 3.5-14, 18, 21, 24, 28, 144 repeaters | ARRL Kids Day | Ph | Name, age, QTH, favorite color | www.arrl.org/kids-day |
| 20 | 0800 | 20 | 1400 | 50 | WAB 50 MHz Phone | Ph | RS, serial, WAB square or country | wab.intermip.net |
| 20 | 2300 | 21 | 0100 | 1.8-28 | Run for the Bacon QRP Contest | CW | RST, SPC, mbr or power | qrpcontest.com/pigrun |
| 23 | 0000 | 23 | 0200 | 1.8-50 | SKCC Sprint | CW | RST, SPC, name, mbr or "none" | www.skccgroup.com |
| 24 | 1900 | 24 | 2030 | 3.5 | RSGB 80-Meter Club Championship, SSB | Ph | RS, serial | www.rsgbcc.org/hf |
| 26 | 0600 | 26 | 1700 | 3.5-28 | UFT QRP Contest | CW | RST/ QRP/QRO, mbr, or "NM" | uft.net/concours-qrp-uft |
| 26 | 1200 | 27 | 1200 | 3.5-28 | Ukrainian DX DIGI Contest | Dig | RST, oblast or serial | www.izmail-dx.com |
| 26 | 1200 | 27 | 1200 | 1.8-28 | His Majesty King of Spain Contest, SSB | Ph | RS, EA province or serial | concursos.ure.es/en |
| 26 | 1800 | 27 | 2059 | All, no WARC | ARRL Field Day | CW Ph Dig | Number of xmtrs, operating class, ARRL/RAC section or "DX" | www.arrl.org/field-day |
| 28 | 1900 | 28 | 2030 | 3.5-14 | RSGB FT4 Contest Series | Dig | 4-char grid square | www.rsgbcc.org/hf |

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.

# PAPAKURA STREETFEST 2021

On Saturday the 8th of May members of the club gathered at two stands to promote both Civil Defence, and AREC awareness, and also the Amateur radio hobby. Setting up two displays, tables and equipment was performed fairly quickly once David arrived with the truckload from the clubrooms and then the setup began in earnest


*While David ZL1DK and Richard ZL1BNQ, set up an AREC antenna, Ingrid ZL1RAH readies the next one*

As the start time drew near, the stand numbers grew, and radios were quickly set up, antennas were erected, and equipment went on air. Both Will ZL1RVN and David ZL1MR have backpack radios and spent some time walking around the event talking with the base


Rodger – ZL1RAH had brought his homemade BITX HF radio along, and it attracted alot of interest, Sadly however we did not het it talking to our quick and dirty HF stick antenna, Later we switched to the IC-706

and tuned the antenna enough for a few QSO's between the backpack and the base on HF, and continued to enjoy HF contacts even when the set went home for a late lunch.

Wills portable station, hooked up to a homemade Flowerpot antenna attracted plenty of attention, and he made several contacts on the local repeaters, the enthusiasm from the community was a result of all who came along and shared their own enthusiasm for the hobby.


*Dave with the Codan Backpack HF rig chats with fire service personal*

The end result of all this chatting was a list of names who were interested in ham radio classes, some useful community contacts, and an awareness of the hobby and its role in fun, communication and also the experimentation and "Building Stuff" There were even discussions about solar and batteries so the technology side was very much on display.



Discussions about how to make the stands even better next year are already underway, and on behalf of the committee, and club, A big thank you to all who came along to any part, or stopped in at the stand to say hi. We can call this one a successful day.

Special thanks to David ZL1DK and Ian ZL1IRC who loaded the truck at the clubrooms

# RAMBLINGS FROM THE EDITORS DESK

June. Winter has arrived, with vengeance, and we are now well into the second year of a pandemic. Hard to think that a year ago we were, cancelling everything (actually we were doing it again in February) and here we go again with even the Australian travel bubble being put back on hold. Even Dr Bloomfield is talking of another 3-5 years of ongoing impacts.

This will be with us for some time, so let's make sure we have plans in place to keep our hobby and support of each other in whatever happens in the days ahead.

Many of us possibly thought that with the pandemic, and the growth of communication requirements, we would have the best systems in place to manage just about anything, but after seeing how dependant our hospitals were on technology, and the impact of a single hacking act on the health system, we should be thinking about why we did not have a plan B yet alone any real backup strategy.


And as the impacts of the stolen data being released impacts on the individuals, we have to ask, who are you trusting with your data ... and should you be? It's one of the reasons we have a Privacy Act, and a guiding rule of complying with the Act is to only collect the information you really need.

I doubt that as a club we are at any risk of breaking this guideline, In fact if anything, we are likely to go the opposite way, and maybe we should have a little more information ... Like up to date emails and addresses, so just remember if you have changed address, or phone number of email, Make sure your club, RSM and NZART (If you're a member) are kept up to date.

But on the other hand, we also have to consider, what would happen if our systems went off-line. New Zealand is connected to the rest of the world by 12 glass fibres. What impact would a major network outage mean to us? Would our systems be able to still operate? As our radios and equipment get less RF and more computer based, or at least internet connected, what would happen if the internet links went down. Would we manage if we had to go to simplex? And since it happened during the Street-fest, and our CD displays stopped working, it was good that our radio didn't, so most people didn't even know that a Vodafone outage had stopped some of our stuff working. Luckily everything else just kept going.

It might seem like a weird question or comment, but I've spent some time playing, and even with FM simplex, have been surprised just how far you can get with a decent antenna and a bit of height. It's interesting to note that at the AREC meeting, It was suggested that perhaps in every AREC region a channel was monitored, and in an act of irony, 146.475 was suggested. Since this is the second FM call channel 145.500 being the other FM call, I wondered why people would not normally be listening, I do listen on it, and there are a few calls on it, But who listens to 145.500? What would happen if a visitor called? Do we even know our own band plans?


It got me thinking, and it got me listening, however, I also found that there are a lot of simplex channels in use that are like local chat groups where hams chat freely without the need of repeaters. I'm not suggesting that if something happened the repeaters would go down, the linking might, but the repeaters probably wouldn't, at least not all at once, but how are our systems and skills? But how many hams could make better use of simplex on a regular basis, or are our signals so bad we have become as dependant on repeaters, as the Health Boards and in fact most people, on their computer networks?

Of course HF nets and contesting is all simplex, and a lot of fun too, Like the ILLW events, or Jock White contests, And even when I go out to do POTA *(and lately that's not often enough)* the contacts only count if they are simplex. So I spend a lot of time and energy on getting masts and antenna that can get me out and as high as possible, but are we still proficient at it?


In the USA there is a move to advertise their calling frequency on vehicles, as above, and I have wondered how would such a move work here? I often put out a call on a local repeater while I am travelling, but what about the NZ FM call channel – Would I get any takers ?

Maybe it's worth trying. – So let's try 146.475 sometimes – You never know who you'll meet

But there is a second side to the coin, Hams have an allocation in the 2.4 and 5.6 Ghz band (Wi-Fi bands) or rather just outside them and we can have our own versions of Super Wi-Fi. Its call mesh networking, and while it's been played with already, we really need more takers if we are to build a solid mesh network, it's a fantastic way to learn about TCP-IP networking, and also its radio in an allocated band, and allows us to link our stuff over our own network.

OK so maybe we won't quite have the ham internet, but we can have a kick tail intranet with all the features we can build into it. It's not that expensive, but it will need some time and money, but the returns might be awesome. Ian (ZL1IRC) will be talking on this and demonstrating a full build at the clubrooms after the general meeting.

Part of ham radio is communication. Sure, and we have things like rallies/Cycle races/Fun Runs for the AREC readiness side ... sure, But it's also about trying stuff, and experimenting, and I think I'm finally realising what a more experienced ham was trying to tell me about hot spots or repeaters. It's about building an infrastructure that others can use, not just a connection you have on when you want to use it.

Whether that's listening on the simplex calling frequencies, or connecting to the Mesh (as once packet networks were used) or helping other hams build stations, or.... Whatever.

The best parts of Ham radio are the parts we enjoy, and then sharing it with others.

So what are you going to do, or share that might make the hobby a bit more fun for someone else, because the really strange thing, is the fun we share with other becomes the fun we also get to enjoy


*An Arduino based home built simplex repeater project*

And its fun anyone can enjoy, If they want to

It's worth thinking about

73 ZL1NUX

# Clear You Calendar – Then Clean You Shack

Following the cancellation of the Car Boot sale, we had hoped to hold out into the summer months for a second car boot sale. But – Things have changed – and we're now announcing...

## The Mid –Winter Madness Equipment Sale

Saturday July 3rd

At the Clubrooms – Wellington Park

1 Great South Road, Papakura

Doors Open at 10:00am – Close 1pm

Free Entry

A Cafeteria will operate between 10:00 and 12:30

As space is very limited, Tables in the clubrooms will only be offered by application, however, boot sales, in the car park will be available to any private sellers, while there is no charge, bookings are required, and each seller will be allocated 1 car park, and must provide their own rain/shade cover. Sales are to be at the read of your vehicle.

Papakura Radio Club will be clearing up a collection of equipment and everything must go !!!

Anything left is off to E-waste

This may well be the best priced sale of the year.

Sellers are to be on site by 9:00 AM for set-up, as the sales area will be closed off to all vehicle traffic after this time.

## So ... Get that junk into the trunk

# WAITAKERE SPRINTS 2021

The Papakura Radio Club Inc. is pleased to provide the rules for the Waitakere Sprints 2021 The Sprints will be the same as previously held, the Phone Sprint will be on the last Saturday in July and the CW Sprint will be on the first Saturday in August.

The Sprints are of one-hour duration on 80m, and are open to all licensed amateurs in ZL, VK and Oceania call areas.

**Object of the Sprints**
The operator's basic goal in the sprints is to make as many contacts as possible, without duplication, during an hour of operation on a single band. Any contact with ZL, VK or Oceania stations on 80m during the contest period can be counted, a station may be claimed once on SSB and/or CW.

**Eligibility**
The Waitakere Sprints are open to all licensed amateurs anywhere in the ZL, VK and Oceania call Areas. SWL logs will also be welcome.

**2021 Contest Periods**
Phone 1000 to 1100 UTC, on Saturday 31st July
CW 1000 to 1100 UTC, on Saturday 7th August

**Frequencies**
Phone: 3.550 to 3.700 may be used.
CW: 3.500 to 3.550 may be used.

**Power**
In fairness and consideration to others, radio output power must be restricted to a maximum 100 Watts during the contest.

**Contest call**
CQ Contest, CQ Sprint or CQ Test... or whatever gets you contacts!

**Exchanges**
Minimum exchange for a valid contact will consist of signal report and a serial number, sent and received and the serial numbers which must start at 001 and increment by one for each contact made.

**Awards**
Certificates will be awarded to the overall winner and to the best operator in each ZL call area and to the best three scores from VK/Oceania.
Shortly after the event an operators 'Participation Certificate' will be posted on the web site and can be downloaded.

**Scoring.**
**All Phone contacts are 1 point**
**All CW contacts are 1 point**
**All logs will be recorded and scored as phone or CW. They will be added for the overall winner.**

**Logs**
A separate log must be submitted for each Sprint and must be clearly marked PHONE or CW.
Contest logs must show for each contact:- Date, Time, Callsign of station worked, Signal report and Serial Number received, Signal Report and Serial number sent.

SWL logs must show both Callsigns in the QSO also both Signal Reports and Serial numbers.

Logs are to be in the hands of the Manager, Waitakere Sprint by 1 September.

Sample Log
Date - Time - Station Worked - Report - Serial reced - Report - Serial sent

| Date | Time ( UTC ) | Stationworked | RS(T) reced | Serial reced | RS(T) sent | Serial sent |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |

**Postal address:**
Manager Waitakere Sprint
PO Box 72 397
PAPAKURA 2244

**Email is the preferred method of log receipt.**

An email confirming receipt of logs will be sent as logs are received. Plain text file named (yourcallPh.txt or yourcallCW.txt) with a tab or space between each column.
email logs to…
**Closing Date For Logs**
No later than 1st September.

**Operator Information.**
Each log must show the following details.
Mode
Callsign
Name
Address
**Operating area** (must be shown..Eg. ZL1,ZL2,VK, Oceania)
Total Number of contacts claimed.

It is taken that by forwarding your log, you have made the declaration that the operator has abided by the rules and spirit of the contest.

Any entry which is clearly in violation of the rules or spirit of this contest or which contains an excessive number of duplicate contacts (this does not refer to duplicates which have been indicated as such and are not claimed) may be disqualified.

The decision of the Waitakere Sprint Manager in respect of interpretation of these rules, the granting of awards and disqualifications will be final and no correspondence will be entered into.

**Rules updated 21st April, 2021.**

# GEEKY NEWS

## PHYSICISTS UNCOVER SECRETS OF WORLD'S THINNEST SUPERCONDUCTOR

Physicists from across three continents report the first experimental evidence to explain the unusual electronic behavior behind the world's thinnest superconductor, a material with myriad applications because it conducts electricity extremely efficiently. In this case the superconductor is only an atomic layer thick.

The work, led by an MIT professor and a physicist at Brookhaven National Laboratory, was possible thanks to new instrumentation available at only a few facilities in the world. The resulting data could help guide the development of better superconductors. These in turn could transform the fields of medical diagnostics, quantum computing, and energy transport, which all use superconductors.

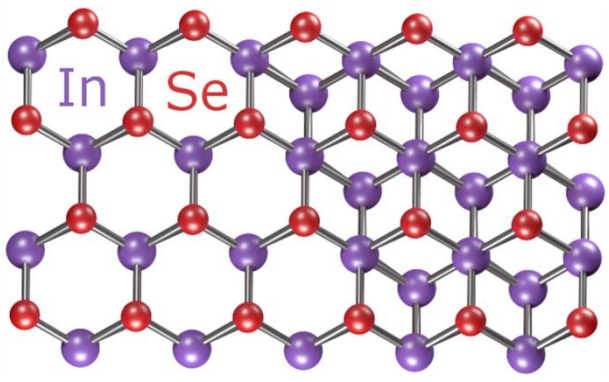
The subject of the work belongs to an exciting class of superconductors that become superconducting at temperatures an order of magnitude higher than their conventional counterparts, making them easier to use in applications. Conventional superconductors only work at temperatures around 10 Kelvin, or -442 Fahrenheit.


**World's Thinnest Superconductor**

In 2015 scientists discovered a new kind of high-temperature superconductor: a sheet of iron selenide only one atomic layer thick capable of superconducting at 65 Kelvin. In contrast, bulk samples of the same material superconduct at a much lower temperature (8 Kelvin). The discovery sparked an investigative flurry to decode the secrets of the world's thinnest superconductor.

In a regular metal, electrons behave much like individual people dancing in a room. In a superconducting metal, the electrons move in pairs, like couples at a dance. All these pairs are moving in unison, as if they were part of a quantum choreography, ultimately leading to a kind of “electronic superfluid,"

But what is the interaction, or "glue," that holds these pairs of electrons together? Scientists have known for a long time that in conventional superconductors, that glue is derived from the motion of atoms within a material.

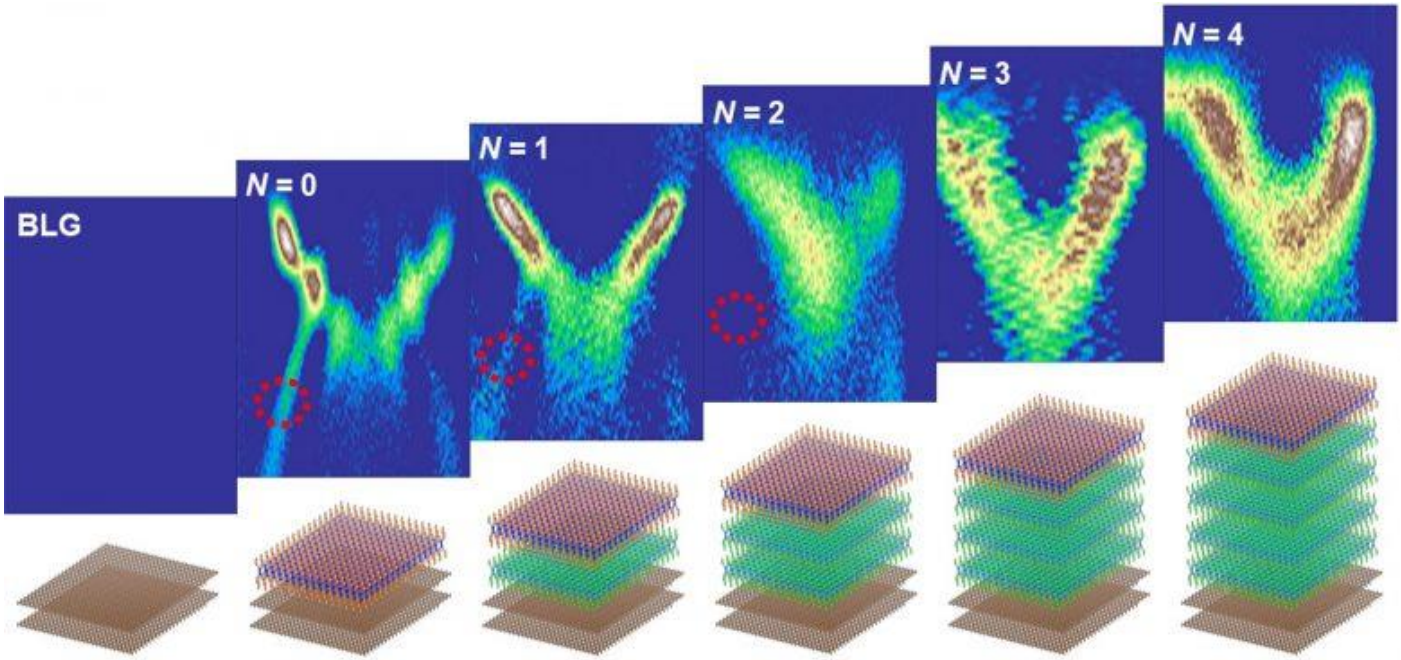



If you look at a solid sitting on a table, it does not appear to be doing anything. However, "a lot is happening at the nanoscale. Inside that material electrons are flying by in all possible directions and the atoms are rattling; they're vibrating." In conventional superconductors, the electrons use the energy stored in that atomic motion to pair up.

The glue behind electrons' pairing in high-temperature superconductors is different. Scientists have theorized that this glue is related to a property of electrons called spin (another, more familiar property of electrons is their charge). The spin can be thought of as an elementary magnet. The idea is that in a high-temperature superconductor, electrons can pick up some of the energy from these spins, known as spin excitations. And that energy is the glue they use to pair up.

"The impact of this work is two-fold," says Dr. Thorsten Schmitt, head of the Spectroscopy of Novel Materials Group at the Paul Scherrer Institut in Switzerland. Schmitt was not involved in the work. "On the experimental side, it is an impressive demonstration of the sensitivity of RIXS to the spin excitations in a superconducting material only an atomic layer thick. Furthermore, the [resulting data] are expected to contribute to the understanding of the enhancement of the superconducting transition temperature in such thin superconductors." In other words, the work could lead to even better superconductors.

## ACTOR IN A SUPPORTING ROLE: SUBSTRATE EFFECTS ON ATOMICALLY THIN SEMICONDUCTORS




**Researchers detected non-negligible interactions between technologically intriguing 2D materials and the substrates that physically support them.**

Atomically thin layers are of great technological interest because of potentially useful electronic properties that emerge as the layer thickness approaches the 2D limit. Such materials tend to form weak bonds outside the layer and are thus generally assumed to be unaffected by substrates that provide physical support.

To make further progress, however, scientists must rigorously test this assumption, not only to better understand single-layer physics, but also because the existence of substrate effects raises the possibility of tuning layer properties by tweaking the substrate.

The results showed that as the substrate thickness increased, a dramatic and systematic variation occurred in the single-layer titanium telluride. An electronic phenomenon known as a charge density wave — a coupled charge and lattice distortion characteristic of single-layer titanium telluride — was suppressed.

“The experimental findings, combined with first-principles theoretical simulations, led to a detailed explanation of the results in terms of the basic quantum mechanical interactions between the single layer and the tunable substrate,” said Lin.

Given that the interfacial bonding remained weak, the researchers concluded that the observed changes were correlated with the substrate’s transformation from a semiconductor to a semimetal as it increased in thickness.

“This systematic study illustrates the crucial role that substrate interactions play in the physics of ultrathin films,” said Lin. “The scientific understanding derived from our work also provides a framework for designing and engineering ultrathin films for useful and enhanced properties.”

*Sounds like near field effect on an antenna to me. Did we already know this first ?*

## THE NEW ROLLS ROYCE

A NEW EMPLOYEE WAS IMPRESSED WHEN THE BOSS SHOWED UP WITH A BRAND NEW ROLLS ROYCE.

“THAT IS ONE VERY NICE CAR”, HE SAID

“WELL, IF YOU WORK HARD, AND PUT IN THE HOURS AND EFFORT,” SAID THE BOSS,

“THEN NEXT YEAR, I CAN BUY ANOTHER ONE. “

And the winner of best supporting Role is ...

## THE PHILOSOPHICAL JOKE

A horse walks into a bar and orders a pint. The barkeep says, "You're in here pretty often. Do you think you might be an alcoholic?"
The horse replies, "I don't think I am," and vanishes from existence.
See, the joke is about Descartes' famous philosophy of 'I think; there-fore, I am", but to explain that part before the rest of the joke would be putting Descartes before the horse.

## WHY IS IT ?

# SEEN OR HEARD AROUND THE SCENES

## FLOWERPOT NIGHT

With Winter indoor activities are best, so we had fun with some coax & conduit making flowerpot antennas.


While we got great 2 metre results, the 70cm may still need some “tweaking” and the following week we make a 6 metre one – Just a wee bit bigger


--

**Photos Courtesy,**
**[ZL1RAH]**

## SOME TID-BITS FOR THE MAGAZINE

Since Covid lockdowns I have become quite addicted to looking at a range of videos on YouTube. The following links may be useful for hams. Just search for the term in YouTube and the channel should appear in the search result.

**TRX Lab** – a German radio engineer that gives excellent explanations as to how he repairs various items of equipment e.g. #217 Rescue me I'm a Kenwood. His videos show the whole process of initial functional testing, dismantling and focussed testing followed by repair, reassembly and final functional testing.

**Tony Albus** – A Dutch electronic enthusiast/ham with a propensity to buy test equipment and stuff then demo it in videos.

**OH8STN** – An American living in Finland who likes heading out into the snow to test QRP rigs so he builds battery packs and other stuff as well.

**W2AEW** – Some good topics covered with explanations that are easy to understand e.g. repair videos, technical explanations, operating hints.

**EEVblog** – An Aussie electronics/electrical engineer who has been around for over 10 years doing videos on diverse topics including how to solder.

**Radio Prepper** – A French amateur who used to live in the USA who is in to CW and QRP with numerous little projects with antennas and baluns.

**LifeIsTooShortForQRP** – Another Dutch ham living in the USA who likes to collect and test various transceivers, interesting to watch.

David (ZL1MR)

## TIME TO WARM UP YOUR STRAIGHT KEY


As the winter solstice approaches, that means it's time once again for Straight Key Night - Winter Edition.

One of the nice things about the winter edition is that it's an hour earlier than the summer event, so you get better propagation - and you don't have to stay up late!

Straight Key Night is a casual CW contest, running for just one hour (8-9pm) on Sunday 13 June.

Here are some tips for newcomers:

- You need to send and receive the full SKN exchange, which includes things like "type of key" and "power level".
- To keep things interesting, we follow the "QSY Rule" - it's easy once you get used to it.

Please see the full details, including special log sheets and summary sheets, at maritimeradio.org/skn.

If you have questions, please contact ZL1NZ at skn@maritimeradio.org.

--

Neil Sanderson ZL1NZ
**New Zealand Straight Key Night**

Address radiograms to ZL1NZ Auckland
QSX 3535.0 kHz at 2100 NZT (Mon-Fri)

## INTERNATIONAL LIGHTHOUSE LIGHTSHIP WEEKEND - ILLW

Normally held on the 3rd full weekend in August

Next ILLW: 00.01 UTC 21st August to 24.00 UTC 22nd August 2021 (48 hours)

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For some reason or other August seems to have become the international weekend for lighthouses. Countries all over the world have become involved in one for or another of lighthouse activity.

The ILLW usually takes place on the 3rd full weekend in August each year and attracts over 500 lighthouse entries located in over 40 countries. It is one of the most popular international amateur radio events in existence probably because there are very few rules and it is not the usual contest type event. It is also free and there are no prizes for contacting large numbers of other stations. There is little doubt that the month of August has become "Lighthouse Month" due largely to the popularity and growth of the ILLW.

If you thinking of activating a lighthouse, It’s time to start the planning

# 60M SUB LICENCE – IT'S BACK, BUT DIFFERENT

NZART is pleased to announce that negotiations with RSM have been successful in obtaining a licence to allow operation for all New Zealand amateur operators to use in the 60 m (5 MHz) band using the WRC-15 allocation.
Thanks again Bob Vernall ZL2CA for all your work in this area.

Maximum allowable power is 15 W EIRP (effective isotropic radiated power).

**Amateurs are secondary users in this band. 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.**

As with the old 60m trial, all those who wish to operate on the band **must complete and sign** the new sub licence which sets out the terms of operation before you can operate. For a full list of FAQ's please click here

Due to the new licence, NZART cannot grandfather those under the old sub-licence and ALL users of this band must complete the new sub-licence application.

Once completed, please scan and email to NZART HQ nzart@nzart.org.nz. Once acknowledged by return email, you can begin operation.

Also attached are the FAQs (Frequently Asked Questions) which you are strongly encouraged to read to ensure you stay within the terms of your sub-licence.

The NZART licence (and your sub-licence) is for a twelve month period to allow RSM to assess if there are any interference issues.

If not, then NZART will negotiate with RSM to having the 60 m (5 MHz) band allocation added to the GURL (General User Radio Licence). If this negotiation is successful then the need for the sub-licence will not be required in the future.

NZART President
Mark ZL2UFI

# 41ST ALARA CONTEST 2021

**ELIGIBILITY:** All licensed operators throughout the world are invited to participate.
Scout and Girl Guide groups are encouraged to participate using their Club's equipment and callsign.

**OBJECT:** Participation: YLs work everyone, OMs work YLs only.

**CONTEST:** Combined phone and CW runs over 24 hours:

**STARTS: Saturday 28th August 2021 at 0600 hours UTC**
**ENDS: Sunday 29th August 2021 at 0559 hours UTC**

**SUGGESTED FREQUENCIES:** All HF Bands except 160 m & WARC Bands. **Contacts made on Echolink will also be accepted.**

**OPERATION:**

- YL's operating with their own callsigns
- YL's from Scout and Girl Guides groups using their Club's equipment/callsign with a licensed Amateur present.
- Second operators. If YL is operating as a 2nd operator, her husband/partner **CANNOT** participate in the contest.
- Every individual phone or CW contact may be counted.
- There must be an interval of greater than **1 hour** between contacts with any one station on any one band and in the same mode.
- All contacts must be made in accordance with operator and station licence regulations.

**PROCEDURE:** Phone: call "CQ ALARA CONTEST"
CW: YLs call "CQ TEST ALARA"
OMs call "CQ YL"

**EXCHANGES:** **ALARA member:** RS or RST, serial no. starting at 001, ALARA member, name.
**YL non-member, OM:** RS or RST, serial no. starting at 001, name and whether YL or OM.
**OMs work YLs only.**

**SCORING:** **Phone:** 5 points for ALARA member logged
4 points for YL non-member logged or Scout and Guide groups (YL's)
3 points for OM logged including from Scout groups (OM's)
**CW: All contacts made on CW count for double points**
**OM** or Scout group (OM's):
5 points for ALARA member logged
4 points for YL non-member logged or Scout and Guide groups (YL's)

**LOGS:**

- Single log entry. Logs must show date, UTC time, band, mode, call sign worked, report and serial number sent, report and serial number received, first name of operator of station worked and points claimed.
- Scout and Girl Guide participants should also include their patrol name.
- **Please note in mode if contact is on Echolink.**
- Paper logs or electronic logs are both welcome.
- **LOGS MUST** show full name, call sign and address of operator, and show final score (points claimed).
- **ELECTRONIC LOGS MUST** BE IN A FORMAT WHICH CAN BE PRINTED BY MICROSOFT WORD OR MICROSOFT EXCEL.
- Logs must be legible. No logs will be returned. Decision of the Contest Manager will be final, and no correspondence will be entered into.

Logs must be received by the Contest Manager by: **30TH SEPTEMBER, 2021.**

**CONTEST MANAGER:** **Mrs Sue Southcott VK5AYL**
**PO Box 708**
**Goolwa SA 5214**
**AUSTRALIA** **OR: alaracontest@wia.org.au**

**Certificates** will be awarded for the following:

Top score YL overall

Top score YL phone only

Top score YL Echolink

Top score OM in each continent & VK call area

Top score Australian YL CW

Top score DX YL CW

Top score DX YL

Top score ALARA member in each country & VK call area

TOP SCORE vk yl Foundation Licence Holder

# 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 | 146.625 | 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 |
| | 17:30 | 14.183 | ANZA DX Net |
| | 18:00 | 7.115 | VK7OB |
| | 19:30 | 3.720 | ZL1MO |
| | 18:30 | 3.766 | ZL3LE |
| | 08:30/20:00 | 3.730 | ZL3RP |
| | 20:30 | 3.725 | ZL2HN / ZL4RF |
| | 21:00 | 3.677 | Counties Net ZL2MA |
| | 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:
Courtesy of Murray ZL1BPU

| | | | |
|---|---|---|---|
| Daily | Sunset-Sunrise | 3580 USB | NZ FSQCall |
| 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 | Ph | 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 | 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: zl1nux@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 $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 8.30am. 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)