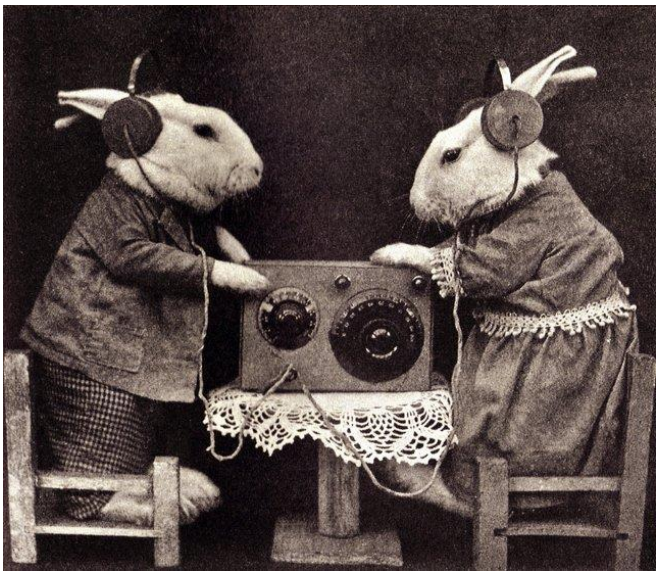
The Official Newsletter of the

PAPAKURA RADIO CLUB INC.

April 2023



And Chocolate too.

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CONTENTS ...

This Month's Meeting:

Wednesday 5th of April will the next meeting for 2022. Following general business, we will have K Everitt, from Radio Spectrum Management as our guest speaker.

There will be a cuppa and biscuit afterwards so we can socialise, radios optional

If transport is a problem, let the committee members know, and we may be able to assist with arranging a ride for you.

CLUB ACTIVITY:

Some special events over this month to support our new hams, and any no so new ones too. Wednesday 12th is a project night, and we will be helping our new hams make a 2-metre base station. To take home and help them get on the air.

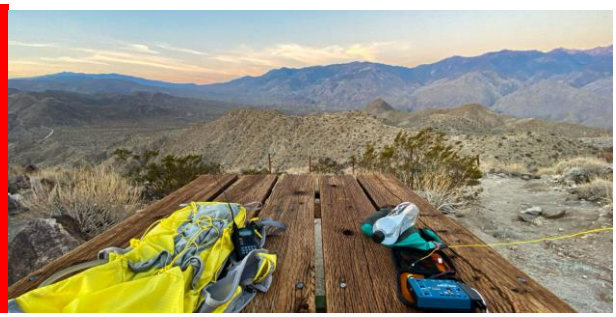
On Wednesday the 26th, we will be doing a vehicle install night, so if you having trouble getting a rig into your car, or you want to help our new hams get theirs installed. Pop down to the clubrooms for a night install marathon.

We have had 7 persons attempt the Ham Exam, last Saturday, with 6 passes. Congratulations to all our new hams, so listen out for some new callsigns popping up around the repeaters.

The one who missed, will be competing some additional studies, and will hopefully pass soon.

The Class of the April Cram, Left to Right, Kimi, Anna, Andy, Vivienne, Isolde, Helen & John.

Don't forget we will be having another Ham Cram on May 20th and 27th, So if you know anyone who might like to attend, let us know.



But what a view from the top

ZL AUTUMN SPRINTS

ZL Autumn Sprints kick off on Tuesday 4 April 2023 at 0800z (8pm) and run for the four consecutive Tuesdays in April on 80m.

The format is the same as last time, i.e. work as many other stations as you can in an hour with the first half hour being CW and the second half hour SSB.

You can work the same station once in each half hour (or you can just do the CW or SSB segment). The exchange is signal report and outside temperature (if it is below zero then record the number with an "M" in front of it e.g. M1 is minus 1).

Each QSO is worth one point and there are no multipliers. Logs must be emailed to me in within 24 hours of each round to be counted and scores will be posted weekly. 4 Recommended frequencies are:

CW 3520-3550kHz
SSB 3600- 3650kHz

This is a good chance to have a go at contesting in a very low-key way or improve your operating skills. The full rules can be found at:

https://www.nzart.org.nz/activities/contests/sprints/

Any questions let me know. Mark ZL3AB

PARKS ON THE AIR (POTA) WORKSHOP

When: 1000 to 1200 Saturday April 15 and 0900 to 1300 to Sunday April 16

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Where: Saturday April 15 is at the Branch 29 clubrooms, 400 East Coast Road, Sunnynook.

Sunday April 16 is in Long Bay Regional Park. On the Saturday, parking is available in both the lower and upper car parks at 400 East Coast Road, Sunnynook. The location of the workshop in Long Bay Regional Park will be decided on the Saturday of the workshop. Organisers: Terry James ZL1HOG and the Branch 29 committee. Terry is the chairperson of Branch 29 and a POTA proponent.

Cost: The workshop is free as is morning tea on Saturday morning. Workshop participants should bring their own food for Sunday.
Who can attend: The workshop is open to any operator with an amateur licence.
Rain check: Unless there is an extreme weather event, the first day of the workshop will go ahead.

The second day of the workshop will be postponed if there is rain or high winds.
POTA is an awards program that requires operators to either activate a park by contacting other stations, or to hunt parks by contacting stations activating parks. The Auckland region is fortunate to have 22 POTA parks within a two-hour drive of downtown Auckland. There are also four POTA parks on islands in the inner Hauraki Gulf.

The workshop on Saturday morning will be an introduction to POTA. The first half of the introduction will explain what activators and hunters do, what awards are available, and what is required to activate a park, including alerting and spotting. The second half of the introduction will describe how to submit logs and discuss the important role FT-8 plays in the activation of parks. During the introduction, Terry will present tips operators can follow to help ensure they successfully activate or hunt a park.

The workshop on Sunday will be a practical demonstration of activating a park. Terry will go through setting up a portable POTA station and discuss the gear he typically uses on a POTA activation. He will then activate Long Bay Regional Park.
If you are new to POTA and have gear you are thinking of using on POTA activations, you are encouraged to bring the gear to the workshop and ask questions about the gear.
Although the organisers would like you to attend both days of the workshop, the organisers realise that you might be able to attend one day only.
Questions? If you have any questions about the workshop, please email Terry ZL1HOG at tcjhog@icloud.com
Acknowledgement: The use of the POTA logo is acknowledged.

DX CALENDAR APRIL 2023

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
VP2MEI		H31B H31W														V31JZ/P										8Q7KB			
V26EI											TX5XG											5X2I							
D44KIT											VP9KF																		
9X5RU												E51CIK E51WEG																	
E6AF E6CI																													
RI1ANC RI30ANT																													
	H44MI																												
TO1Q																													
Z81D																													
	T30UN																												
JG8NQJ/JD1																													
VK0AW																													
H44MS																													
FH4VVK																													

Featured DX

E51CIK E51WEG Rarotonga Island Cook Islands

SP6CIK and SP9FIH will be active as E51CIK and E51WEG from Rarotonga Island, IOTA OC - 013, 13 - 28 April 2023.

They will operate on 40 - 10m,

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UPCOMING CONTESTS

Start - Finish Date-Time		Date-Time		Bands	Contest Name	Mode	Exchange	Sponsor's Website
1	0800	1	2000	1.8-28	RSGB FT4 International Activity Day	Dig	Signal report, 4-char grid	www.rsgbcc.org/hf/
1	1000	2	0400	14	PODXS 070 Club PSK 31 Flavors Contest	Dig	SPC, mbr or name	www.podxs070.com
1	1200	2	1200	3.5-28	EA RTTY Contest	Dig	RSQ, province or serial	concursos.ure.es/en/eartty/bases
1	1400	2	0200	1.8-28,50, 144	Louisiana QSO Party	CW Ph Dig	RS(T), LA parish or SPC	laqp.louisianacontestclub.org
1	1400	2	0200	1.8-28,50, 144	Mississippi QSO Party	CW Ph Dig	RS(T), MS county or SPC	www.arrlmiss.org
1	1400	2	2000	1.8-28, V/UHF	Missouri QSO Party	CW Ph Dig	RS(T), MO county or SPC	www.w0ma.org
1	1400	2	2200	3.5-28	Florida State Parks on the Air	CW Ph Dig	Park ID or SPC	flspota.org/rules
1	1500	2	1500	1.8-28	SP DX Contest	CW Ph	RS(T), SP province or serial	spdxcontest.pzk.org.pl/2023
3	1900	3	2030	3.5	RSGB 80m Club Champ, CW	CW	RST, serial	www.rsgbcc.org/hf/
4	0100	4	0300	3.5-28	ARS Spartan Sprint	CW	RST, SPC, pwr	arsqrp.blogspot.com
5	2000	5	2100	3.5	UKEICC 80m Contest	Ph	6-char grid	www.ukeicc.com/80m-rules.php
6	0000	7	0300	7	Walk for the Bacon QRP Contest	CW	Max 13 WPM; RST, SPC, name, mbr or pwr	qrpcontest.com/pigwalk40
8	0000	8	0600	1.8-28	QRP ARCI Spring QSO Party	CW	RS, SPC, mbr or pwr	qrparci.org
8	0700	9	1300	1.8-28	JIDX CW Contest	CW	RST, JS prefecture or CQ one	www.jidx.org/jidxrule-e.html
8	1200	9	1100	3.5-28	DIG QSO Party, CW	CW	RST, mbr or RST	diplom-interessen-gruppe.info
8	1200	9	1200	1.8-28	OK/OM DX Contest, SSB	Ph	RS, OK/MO county code or serial	okomdx.crk.cz
8	1200	9	1800	3.5-28	IG-RY World Wide RTTY Contest	Dig	RST, 4-dig yr first licensed	www.ig-ry.de/ig-ry-ww-contest
8	1400	9	0200	1.8-28,50, 144	New Mexico QSO Party	CW Ph Dig	Name, NM county or SPC	www.newmexicoqsoparty.org
8	1800	9	2359	1.8-28,50	Georgia QSO Party	CW Ph	RST, GA county or SPC	gaqsoparty.com
8	2100	9	2100	1.8-28,Sat	Yuri Gagarin Int'l DX Contest	CW	RST, ITU zone	gc.qst.ru/en/section/32
9	1000	9	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	0000	10	0200	1.8-28	4 States QRP Group 2nd Sun Sprint	CW Ph	RS(T), SPC, mbr or pwr	www.4sqrp.com
10	1500	10	1730	3.5,7	DARC Easter Contest	CW Ph	RS(T), DOK or serial	www.darc.de/der-club/referate/conteste
10	1900	10	2300	144	144 MHz Spring Sprint	CW Ph Dig	4-char grid	sites.google.com/site/springvhfupsprints
12	0030	12	0230	3.5-14	NAQCC CW Sprint	CW	RST, SPC, mbr or pwr	naqcc.info
14	2100	15	2059	3.5-28	Holyland DX Contest	CW Ph	RS(T), 4X area or serial	www.iarc.org
15	0600	16	0559	3.5-28	Worked All Provinces of China	Ph	RS(T), BY province or serial	www.mulandxc.com
15	0700	16	0659	3.5-28	YU DX Contest	CW Ph	RS(T), YU/YT county or serial	www.yudx.yu1srs.org.rs
15	0700	15	1900	1.8-28	Dutch PACCdigi Contest	FT8 Dig	RST, 4-char grid	www.veron.nl
15	0900	16	2359	3.5-28	CQMM DX Contest	CW	RST, continent abbrev	www.cqmmdx.com/rules
15	1300	16	2200	1.8-28, V/UHF	Nebraska QSO Party	CW Ph Dig	NE county or SPC (FT8: grid)	nebraskaqsoparty.com
15	1400	16	2000	No WARC	Texas State Parks on the Air	CW Ph Dig	RST, park ID or SPC	www.tspota.org
15	1600	16	0400	3.5-28	Michigan QSO Party	CW Ph	RST, MI county or SPC	miqp.org/index.php/rules
15	1700	16	1200	3.5-28	EA-QRP CW Contest	CW	RST, category, "M" if mbr	www.eaqrp.com
15	1800	16	1800	1.8-28,50, 144	Ontario QSO Party	CW Ph	RS(T), ON county or SPC	www.va3cco.com/oqp/rules.htm
15	1800	16	1800	1.8-28,50, 144	North Dakota QSO Party	CW Ph Dig	RS(T), ND county or SPC	www.ndarrlsection.com
16	1200	16	2000	1.8-28,50, 144	Quebec QSO Party	CW Ph	RS(T), QC zone or SPC	wp1.quebecqsoparty.org
16	1800	16	2359	3.5-28	ARRL Rookie Roundup, SSB	Ph	Name, 2-dig yr first licensed, state/province/XE area/DX	www.arrl.org/rookie-roundup
18	1900	18	2300	222	222 MHz Spring Sprint	CW Ph Dig	4-char grid	sites.google.com/site/springvhfupsprints
19	1900	19	2030	3.5	RSGB 80m Club Champ, SSB	Ph	RS, serial	www.rsgbcc.org/hf/
22	0800	22	1800	3.5-28	QRP to the Field	CW Ph	RST, SPC, name/SOTA	www.zianet.com/qrp/qrpttf/pg.html
22	1200	23	1200	3.5-28	SP DX RTTY Contest	Dig	RST, SP 2-letter province or serial	www.pkrvg.org
23	0000	23	0400	3.5-14	North American SSB Sprint Contest	Ph	Other's call, your call, serial, name, SPC	ssbsprint.com/rules
23	1700	23	2059	3.5-28	BARTG Sprint 75	Dig	Serial	bartg.org.uk
24	1900	24	2030	3.5-14	RSGB FT4 Contest	FT4	4-char grid, signal report	www.rsgbcc.org/hf/
26	1900	26	2300	432	432 MHz Spring Sprint	CW Ph Dig	4-char grid	sites.google.com/site/springvhfupsprints
27	1900	27	2030	3.5	RSGB 80m Club Champ, Data	Dig	RST, serial	www.rsgbcc.org/hf/
29	0001	30	2359	28	10-10 Int'l Spring Contest, Digital	Dig	Name, mbr or "0," SPC	www.ten-ten.org
29	1200	30	1200	3.5-28	UK/EI DX Contest, CW	CW	RST, serial, UK/EI district code, serial	www.ukeicc.com/dx-contest-rules.php
29	1300	30	1259	1.8-28	Helvetia Contest	CW Ph Dig	RS(T), HB canton or serial	www.uska.ch/contest
29	1600	30	2159	7,14,21,28	Florida QSO Party	CW Ph	RS(T), FL county or SPC	floridaqsoparty.org/rules

Note: All dates and times are in UTC,

RAMBLINGS FROM THE EDITOR'S DESK

It's hard to believe that it's April already. Summer is over, did it ever really arrive? The signs of an approaching autumn are everywhere, and the temperatures in the evenings and mornings have a crisper feel.

This means that before long our antennas will face the winter winds and its time to get those maintenance tasks done, support guys checked and tensioned and our shacks ready for the cooler months.

But it also means there is still a couple of months left for weekend park or lake activations, and what better month than April? As the northern hemisphere prepares for spring, we get one last fling before the winter months make radio an indoor activity.

This April is perhaps one of the best times for some outdoor radio, North Shore will be running an introduction to Parks on the Air POTA, and now that I have finally sorted out the issue with the Motorhome antenna, the oppertunity to activate some parks as I travel in the camper, is too good a chance to miss.

With the parks (also lakes and summits) all identified on the https://ontheair.nz/ website and 22 parks in the Auckland area alone that can be activated, this is a great opportunity for hams to get out and show off our hobby. In addition, April is the traditional home to World Amateur Radio Day, and with this pushed out to 2 weeks over the month, it's a great month to be out and about (include the weekends either side, and you get 3 weekend opportunities to promote the hobby.

Papakura will extend this into May as we prepare for a display at the Papkura street fest on the 6th of May. Some, even if you can't help with the stand, must pop by as you walk around. We will be on the air on as many bands as we can to show off what we do, and encourage others to take up the hobby. We will be having a Ham Cram on Saturday the 20th and 27th, so if you know anyone who would like to get a license, this will be the ideal time to encourage them to give it a go.

Another major feature of April is, potentially, the chocolatey excesses of easter, the shops are full of the sweet sticky excesses, and that usually makes for an excuse to connect with family and enjoy a break. If you are travelling, maybe we will catch you on the air as you travel, but above all Travel Safe.

April 25 is of course ANZAC Day, and while the alliance is now a memory, the sacrifice of those who gave their lives for the freedom of all peoples will not be forgotten by most of us, I hope you will take time to reflect on the sacrifice of those who either came back without friends or failed to return. We owe them so much. As part of that memory a special call ZL1PPY will be operating on the day on all bands, perhaps a unique call for your logbook.

So it's a great month for radio, and if that was not enough, we only need to turn on any HF rig. We are 3 years into solar cycle 25, and with almost 2 years to go until solar max (even if we still are not sure how to measure it), the propagation has exceeded all predictions, including my own. Once again the sun has show that we know so little about its cycles and modes. The sheer size of coronal holes, the energy of Coronal Mass Ejections, and the sunspot activity has given us not only arouras to high latitudes, and an increased solar flux, it has activated bands in ways not seen in decades. Reports of contacts in the 10, 15

and 20 metres bands are now weekly occurrences, and as these bands do not require large antennas, the ability to get on air with a vertical antenna makes these very attractive bands for DX.

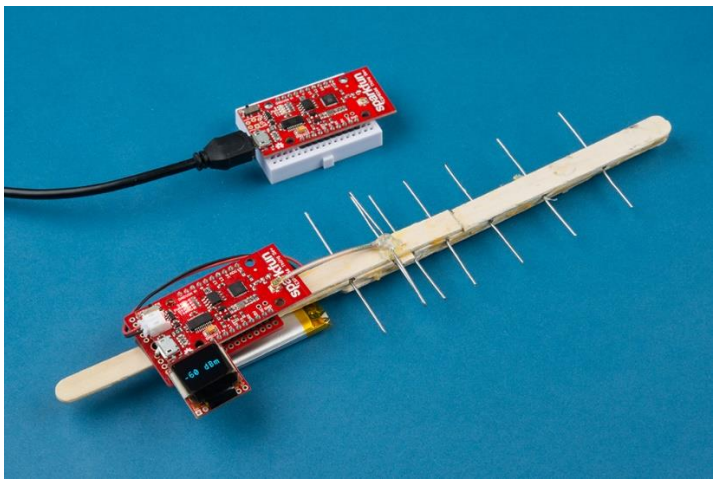
While some of our VHF repeaters are operating below what we are normally blessed with, and the National system remains off air (at least in Auckland) there is still plenty of traffic, and even a few of our previous new hams still collecting contacts, so keep an ear out, especially once our new hams get established, and start calling, I will be encouraging them to try 10 metres up as soon as we can, as these are not limited to them, and the conditions are well suited to 10 metre operation. New hams may operate above 25MHz or below 5MHz from day 1… so 10 metres is a good place to start.

So yes, I'm still optimistic about the future of ham, radio, and while there is no doubt that the recent flooding has made many people think about getting a radio license, I am still convinced that there is a lot of reason to consider that amateur radio has a bright future.

In the earlier days of amateur radio, it was a way to communicate with the rest of the world. Before the internet and smartphones, talking with people at the opposite side of the country or even in different countries was difficult. Amateur radio solved this problem by allowing for long distance communication for reasons like current events, geographical exploration and cultural study.

Amateur radio's early days were filled with experimenters. Because radio was a new science, amateur radio operators were constantly pushing the technological envelope with new antenna designs, filters and other hardware, as well as communication protocols. Even during its mature age, software packages for modulating communication modes, logging contacts, programming radios and the like were developed by tinkerers and experimenters. Many ham radio operators still use homebrew equipment.

Homebrewing is one of the fastest growing fields in amateur radio. In the early days, radio "experts" built antennas and hardware. Many of today's homebrewers still do so, but there is a rise in microcontrollers and programming as well. Microcontrollers like Arduino, or small computers – Raspberry Pi being the most notable – have been used to make programmable keyers for Morse Code, automatic position reporting system trackers for tracking a mobile station's location, modulators for various communication modes, power monitoring devices and a host of other projects.



Smartphones and wireless internet connections are nice but require a substantial amount of infrastructure to be reliable. The reliability decreases, though, during disasters or emergency situations, even a localized set of severe storms can hamper communication networks for days, leaving communities without adequate communication.

Amateur radio operators have often stepped up to help during emergency situations. Organizations such as Amateur Radio Emergency Communications train members to work with emergency organizations, lending their radio expertise to pair with rescuers, set up communication centres and assist accordingly.

Working towards an award, or a contest, may not be everyone cup of tea, but the recognition of a job well done is powerful, the ability to earn recognition from your peers is not to be underestimated, and Parks, Summits Lakes and even Club awards are all reasons to motivate us to use the license we works so hard to achieve, and the equipment we invested time and money into.

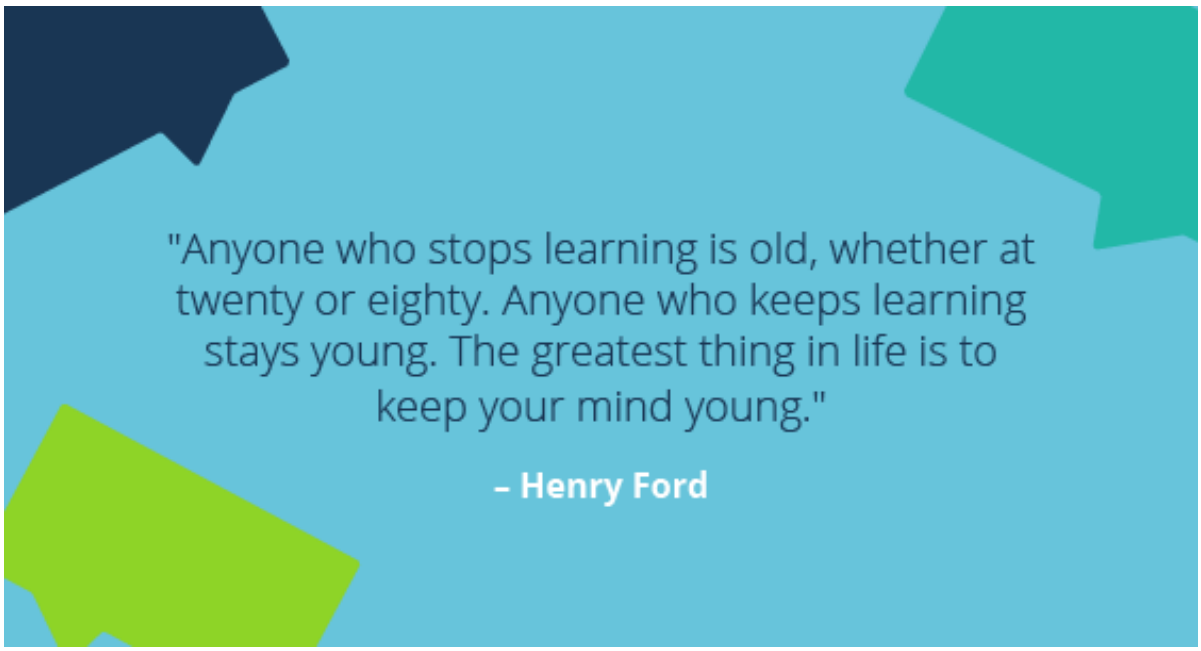
Once dismissed as an "old man's hobby," amateur radio has grown in popularity since the COVID-19 pandemic. Many who were familiar with the hobby found time to explore and even meet new people without leaving home, but the post pandemic world is even more attractive as community resilience becomes the catch cry of the age. Having resources that are not dependant on others has gone from the prepper few, to a mainstream consideration, and having the ability to connect via radio, along with the ability to learn about, and build their own technical solutions is motivating a new generation of hams.

But they, like we did, will require mentoring and guidance, they will need to be shown the parts of the hobby they do not yet know about, and be welcomed into a community that encourages them to make the most of their newly found freedoms as licensed amateurs.

If we rise to the challenge, and encourage these new enthusiasts to take up the challenges… then amateur radio will remain an ever-evolving hobby and stay relevant for quite some time to come.

It's a challenge for all of, So much to learn, So many to teach. Its food for thought.

de ZL1NUX signing



INTRODUCING THE DEATH STAR TRANSCEIVER

For years a certain ham radio company has promised to build a Deathstar Transceiver, but . . .

It has yet to come to fruition. Well, MFJ has beaten them to them to the punch and they feel no qualms about copyright infringement.

This Deathstar transceiver will do everything your ham radio buddy's $10,000 transceiver can do plus a whole heck of a lot more! The MFJ-9966-DTHSTR can do a whole lot of magical things for you. Just get a gander at these uncontested features:

1500W Legal Limit right from the Transceiver. Yes, you heard that right, no more need for no stinking amplifier!

Built-in ATU with 1,000,000 Virtual Antenna Memories and ULTRA-fast NANO-second tuning!

no antenna is needed either, the DEATHSTAR Antenna System is built right in the same box. It makes your whole house radiate as the antenna and at night gives off a very sexy lizardy green glow. Your neighbours will be envious!

Even better! You don't have to push any buttons, it works off of your mind energy. You think you want to work 40M, you're there! Want to do some high speed CW with the PRO fists? No worries, You think it, it does the rest!!!

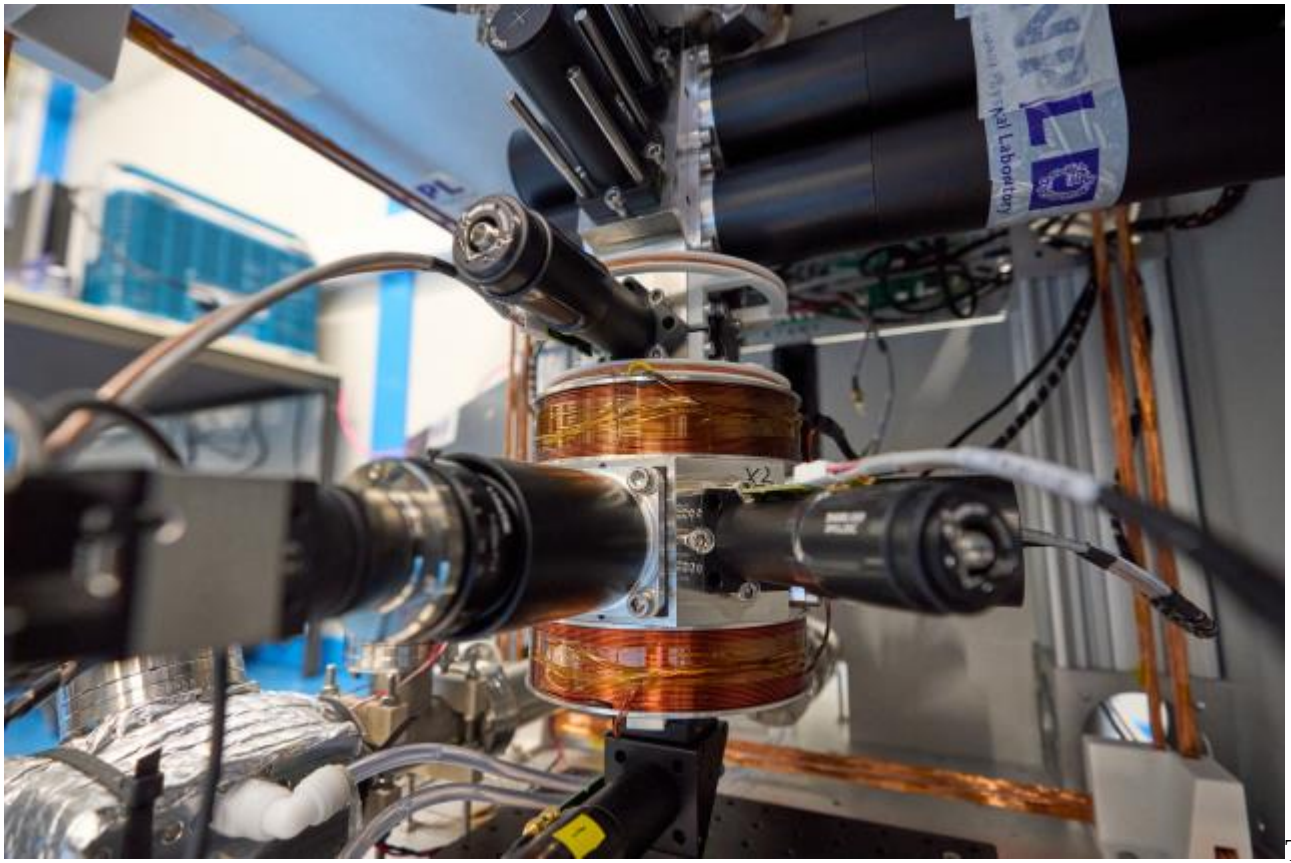
It will even walk the dog, take out the trash and read the newspaper for you. Never before has the world of Amateur Radio seen a product like this. And even more unbelievable? It is now available at the super low incredible price of just $99.95! An unbelievable bargain. And you get MFJ's famous No Matter WhatTM Lifetime Warranty. How's that for unbelievable?!

BTW-- While we are on the subject of unbelievability, you probably have already guessed that the release was dated April 1, 2023.

Hope you had a happy April Fools Day!!!

TIME TO CHANGE: CERN SCIENTISTS PROPOSE 25-HOUR DAY

Scientists at the BETA experiment, in CERN's Antimatter Factory, have made the most precise measurement of the second yet, which could result in the day lasting an hour longer



The Caesium Fountain Clock hosted by the BETA experiment (Image: CERN)

We have all wished for one extra hour in the day. Now, this may become a reality, thanks to new measurements on the second from the BETA experiment at CERN's Antimatter Factory. The experiment used the caesium fountain clock – one of the most precise clocks in the world, used to define SI units and help set coordinated universal time (UTC) – to precisely measure the second using caesium. In conjunction with this clock, BETA also used anticaesium atoms produced by the Antimatter Factory to compare the two definitions of the second given by matter and antimatter. By taking the average, scientists say that timekeeping can now be more accurate than ever before.
"It is about time we updated the definition of a second using antimatter," says Dr Qui, spokesperson of the BETA experiment. "This way, several uncertainties cancel out, making the measurement much more precise."

A brief history of timekeeping

More accurate methods to measure time have always been ticking along. Before the first clocks, humans relied on the geographical position of Earth's rotation around its axis to determine time. The first clocks contained pendulums, which were also unreliable due to their damping. In 1932, the quartz clock was invented, which was much more accurate. However, the resonant frequency of quartz, which sends the electric signals to drive the clock, can change due to environmental factors. This makes them lose precision.

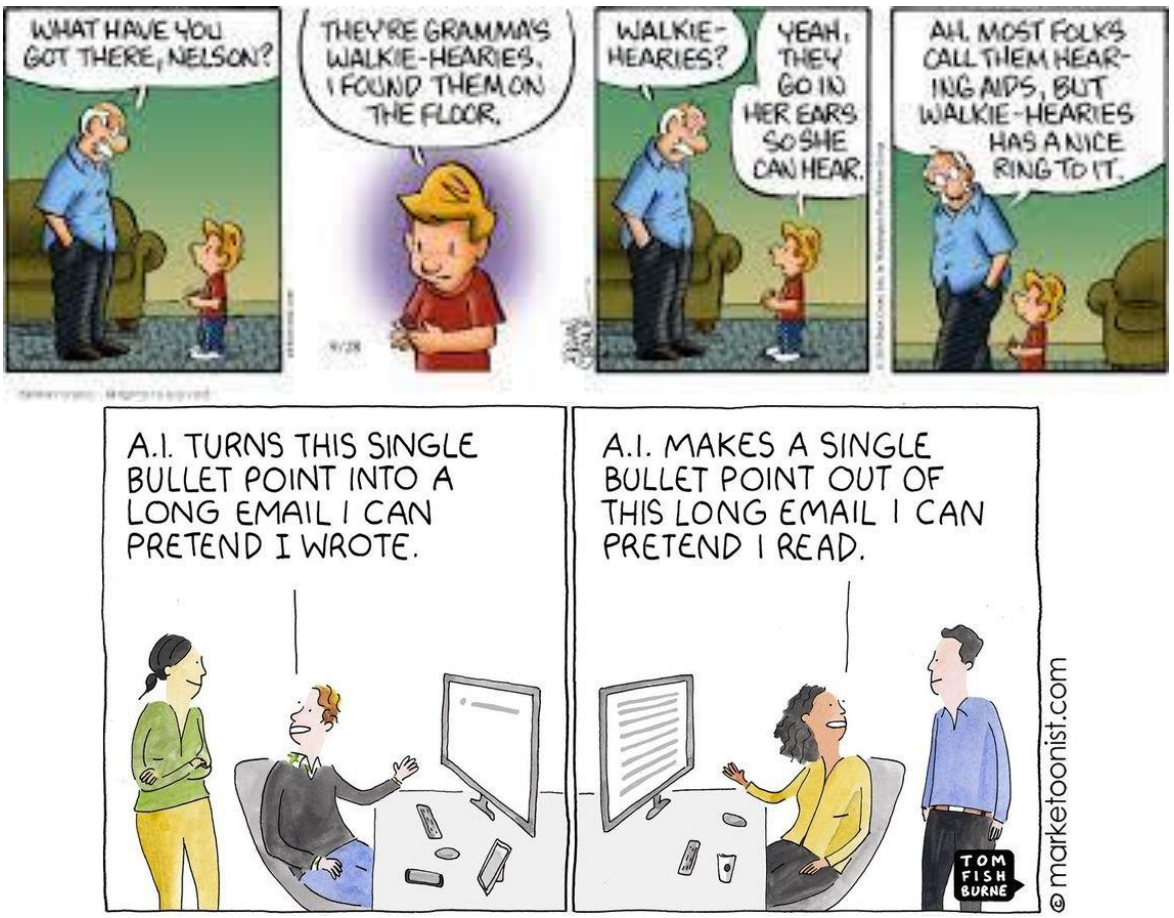
In 1967, the first atomic clock was invented. These are much more precise, because atoms from the same element will always have the same properties. The caesium atomic clock works by an oscillator sending a wave with a frequency of exactly 9 192 631 770 Hz (using the old second definition), which is the frequency needed to excite the caesium atoms. If the oscillator is incorrect, the non-excited atoms cause an electric signal to jolt the oscillator, creating a feedback loop to keep the clock running. An atomic clock will lose only one second in 138 million years.

BETA's new measurement on anticaesium found its excitation frequency to be smaller than that of caesium: 8 499 682 790 oscillations of the oscillator were needed to excite its atoms. By taking the average of matter and antimatter, BETA scientists calculated the second to 8 846 157 280 oscillations: around 96% of the current definition. This means the day would last 24 hours, 56 minutes and 24 seconds. This would be rounded up to 25 hours during the week and rounded down during the weekend.
"We hope that this new measurement will make all our lives easier," Qui continues. "Using antimatter, time will fly by more slowly."

Good timing...

This measurement comes at a time when many countries are investigating the feasibility of a four-day working week. "Having an extra hour in the day means that a 40-hour work week can now be easily implemented, as well as a three-day weekend," says Anita Chronon, from the HR department. "CERN staff will be trialling this new way of measuring time on Monday."

1 APRIL, 2023 - NEED I SAY ANYTHING? .. *YEP EVEN AT CERN THEY CAN LAUGH AT THEMSELVES*



World Amateur Radio Day – Two Weeks Long.

The International Amateur Radio Union announces that Human Security for All, HS4A, will be the theme of World Amateur Radio Day on 18 April 2023. For the first time, the United Nations Trust Fund for Human Security and the World Academy of Art and Science are partnering with IARU in a campaign to highlight the role that amateur radio plays in addressing the world's most pressing needs.

The partners believe Amateur Radio is uniquely positioned to address people-cantered, context-specific security challenges by promoting technical knowledge, practical skills, innovative technology, and the deployment of backup systems at the community level that can be called upon in times of emergency. The pandemic, climate change, natural disasters, and armed conflicts on several continents undermine our security and respect no boundaries. Amateur Radio has repeatedly demonstrated its ability to address human security needs. It is a truly global communications medium comprising some three million radio enthusiasts connecting communities and the peoples of the world.

IARU, a federation of the national amateur radio societies of over 150 countries worldwide, is the global advocate for amateur radio through its Sector Membership in the International Telecommunication Union, an agency of the U.N., and other activities. In celebration of World Amateur Radio Day, IARU and its member-societies will be conducting a special two-week on-the-air event 11 – 25 April. Special event stations will be operating from around the world, making two-way radio contacts to call attention to the HS4A campaign.

1960 ——————————→ *2022*

At the beginning of the 1920s, amateur radio experimenters established the first shortwave spectrum, rather than a “wasteland” that could support worldwide distribution. The International Union of Amateur Radio was founded in Paris in April 1925. Researchers have discovered that the shortwave spectrum that amateurs use to transmit and receive radio can connect people worldwide in ways no one had previously considered. Through experimentation, a group of radio researchers disproved this theory and joined forces to defend bandwidth that would serve the radio enthusiast community.

Since then, the International Amateur Radio Union has worked hard to expand the bandwidth range for radio enthusiasts and has grown to have a large number of members from 25 countries. Amateur radio has only grown rapidly since its early days; today, more than 3,000,000 licensed operators are spreading their voices all across the world. Long before email or video chats, people from different countries and cultures were able to quickly spread ideas using this ham radio.

The 18th of April is the day but the event will be running from April 11 – 25. So, make plans to promote our hobby over the two weeks, and maybe even the whole month of April.

And of course, listen out for the special stations that will be on air over the two weeks.

Maybe get out and do a Park, Lake or Summit on the air. Take a radio outside and make some contacts. If no-one knows it’s there, then no-one will know they can enjoy it too.

Let’s promote the hobby.

What is Z 229-15, and why is it so hard to classify?

It hardy is a surprise to me anymore, that many headlines fail to live up to the hype, once you actually read the article. But the headlines about a celestial body that defies classification might seem like a good headline, but it's hardly been a new discovery, more like an issue with the way we classify the strange stiff that happens above our heads every day. Or sometimes there are celestial bodies that defy simple classification. This is one such object.

Located 390 million light-years from Earth, Z 229-15 is an active and large spiral galaxy. And this activity is what makes simple classification so confusing. The labels astronomers are trying to apply to this object are Seyfert galaxy, quasar, and active galactic nucleus (AGN).

A lot of science is about classification, but sometimes you encounter things that push the limits of those categories, displaying multiple distinctive characteristics at once. This is the case of Z 229-15, a galaxy that couldn't just embody one of our arbitrary classifications, it had to do three in one.

First of all, these labels are all connected, but there is usually a nice distinction between the different cases when each label applies. The connection is the central supermassive black hole. In the galaxies that get one or more of these labels, the black hole is actively feeding. During this process, the material getting closer to the black hole is experiencing incredible gravitational forces which heat it up due to friction. And it begins to shine with incredible energy.

When that happens, you have an AGN. The central area has a higher-than-normal luminosity. As you would expect, Z 229-15 has an AGN. But that is not all.

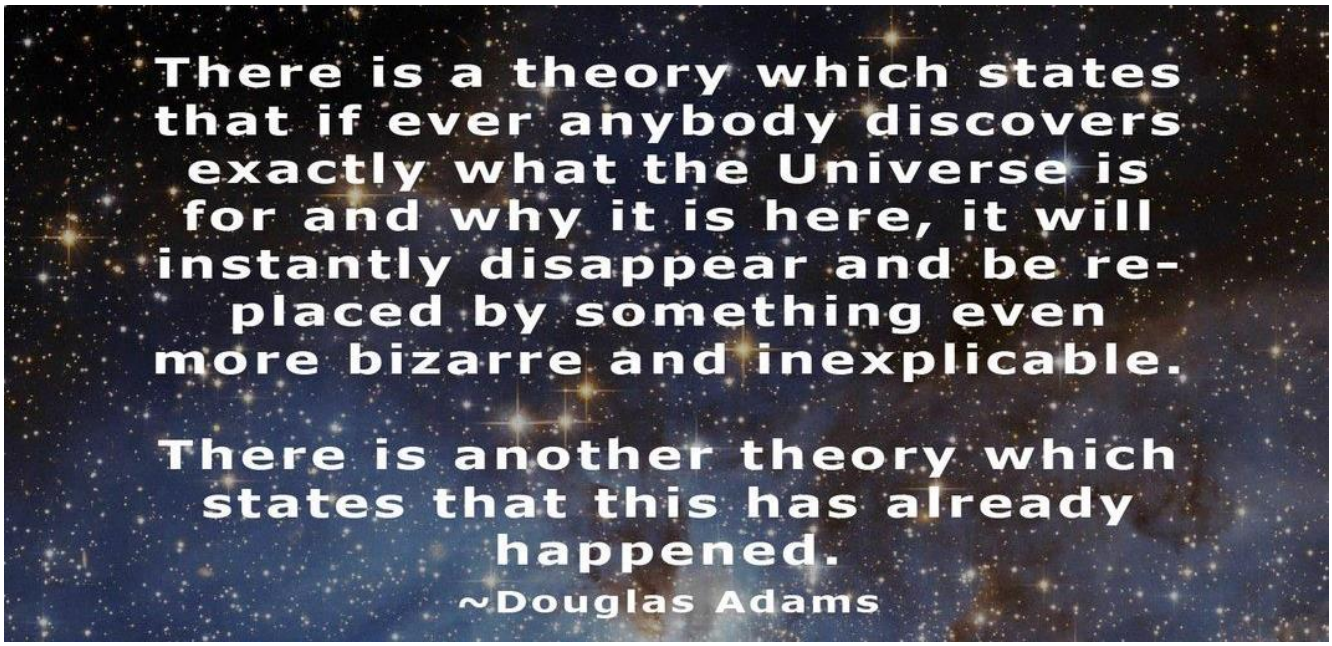
When AGN are so bright that they outshine the rest of the galaxy, they are classified as quasars. Quasars are usually far away and they appear almost as a point; this object is relatively close to Earth and so it is the central region of Z 9229-15 that is washed out by the brightness of its core. So it's a quasar

But you can clearly see that the outskirts of the galaxy with the bright spiral arms are visible, so there is another definition that also fits. A Seyfert galaxy is a galaxy where the supermassive black hole is very active but the galaxy is clearly visible.

So researchers consider Z 229-15 a nesting doll of definitions. From the outside in, it is a Seyfert galaxy containing a quasar that, by definition, hosts an AGN. It is good to find such objects and get a reminder of how arbitrary classifications can be, and how we might end up with a better definition if the need arises.

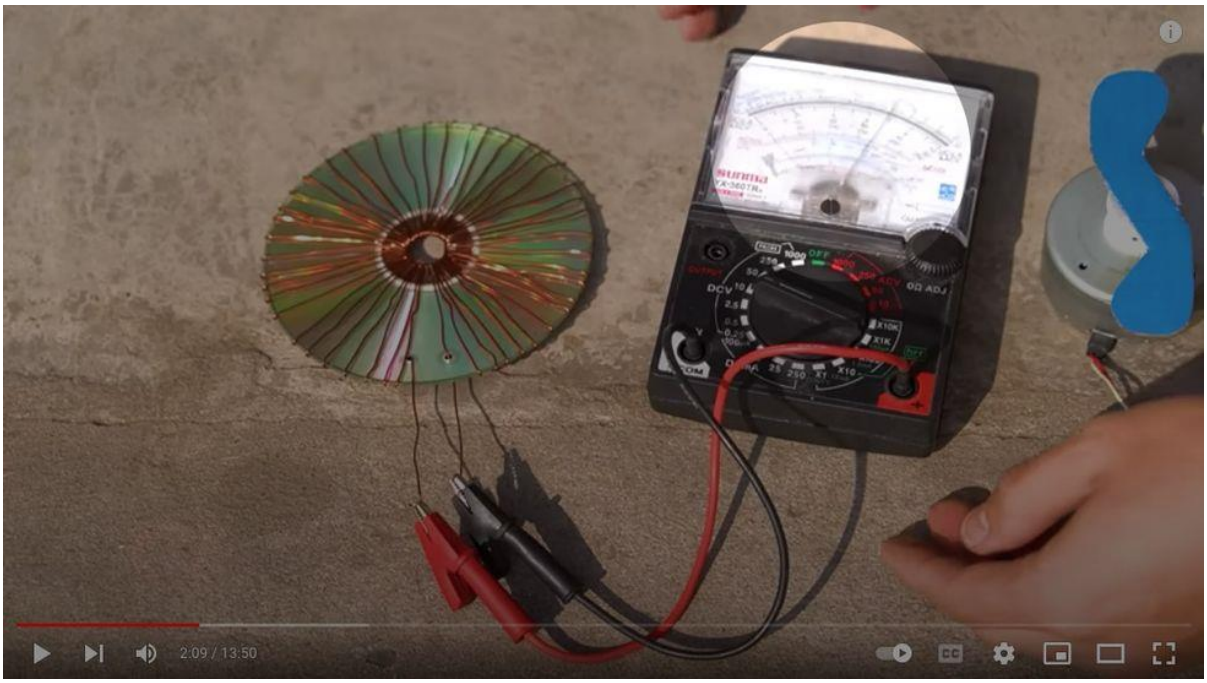
After all, science is all about learning more and changing your mind when better evidence is presented.

And thanks to new tools, we are find all sorts of things that are changing our cosmic view, so … Yeah – Nah. It's a cool, but not abnormal galaxy, and it's more than happy to mess with our labelling systems. After all, who told galaxies, they have to listen to us?



A SOLAR PANEL USING OLD CDS?

Recently, one of those DIY hack videos was checked out by popular engineering after showing up on social media. In it, the creator claimed, “I turn CD/DVD into a solar panel,” which seemed interesting but improbable. So surely there was no way that this could work—is there?



The YouTube Video showing it works

PV cells are actually fairly simple, with three parts sandwiched together. The top and bottom are conductive contacts, while the middle is a semiconductor. Semiconductors are materials that allow electricity to flow through them, at a rate somewhere between that of an insulator—which does not—and a metal—which does so efficiently.

Silicon is commonly used in PV cells, as when suitable optimised, the barrier junction of PN materials can be made to produce an EMF, while the photons (light energy) liberate electrons, which can then move through the materials in a single direction. The side with the most electrons become the negative terminal, while the one with the shortage of electrons is the positive plate.

The video shows someone simply wrapping copper wire around a CD or DVD, going through the centre hole, and working their way around it until it is covered on both sides. This leaving the two ends of the wire next to each other. To keep the wires anchored and isolated from each other, presumably, they’ve each been passed through holes drilled in the CD.

so while it has a conductor (single, contacting both sides), you have to wonder how this can work, but when you realise that there is no semiconductor material in an CD or DVD. The mystery deepens. Why would someone create a DIY video for free electricity that doesn’t work? Maybe the fact that clicks can generate you-tube incomes. And they’re not the only ones. A search for “DIY CD solar cells” yields a lot of videos. But no matter the design, None of them actually worked.

Bradley's build on popular mechanics

In the video, "Free Energy 100% , How make solar cell from CD" they use 3 Zener diodes inline, in a loop of copper on one side of a CD. Doing this may generate some measurable voltage, but it has more to do with the diodes than it does the CD or the elaborate copper wire arrangement. When excited by energy, either electricity, or heat from sunlight, the silicon in the diode can release freed electrons, similar to a photovoltaic cell, but not at a voltage or amperage that is actually useful. It would take an absurd number of Zener diodes to create a useful electric current, but enough diodes side by side would work better than the CD. In fact I show this to my technology students when we study diodes, with a diode and a powerful torch, In addition every diode emits light when conducting, Its just normally IR light, and not much.

In a third video "Homemade 30W Photovoltaic Solar Panel" the creator proposes building a panel using 15 CDs. This id based on the CD covered with foil as conductors, and the CD as the silicon …. And you can guess the result.

These too-good-to-be-true hacks, are just that. Videos like these are at best entertainment, as evidenced the number of plays they've received. But do not spend your time and money on a project destined to waste both. Trying to reproduce the results in these videos is futile. Better to spend your time and money on a trip to a solar supplier, and get some good quality PV panels, and a controller.

So I'm off to collect some small panels for my new go box. But if you need some CD's I have huge stash. At least I can make music CD's or MP3 CD's to listen to when driving.

The original of this article was by Bradley Ford and was featured by popular mechanics.

Attributed as a derivative work of this article..

Heard Around the Scenes
Western Suburbs Branch 03 – ANZAC Day

Western Suburbs NZART Branch 03, will be running a special station to commemorate ANZAC day. Between 0800 - 2000hrs. All Bands FT8 and SSB

Callsign ZL1PPY. Special QSL card.

Wanganui Branch Table Sale Registration (May)

When: Saturday 6th May
Where: Blind & Low Vision Hall 102 Peat Street, next to ZL2JA Clubrooms
Start time: 9am

More information and registration *(No table sales on the day)*, so please register early.

Mike Newman ZL1BNB
jandcwakely@gmail.com
Secretary Branch 48
Wanganui ARC

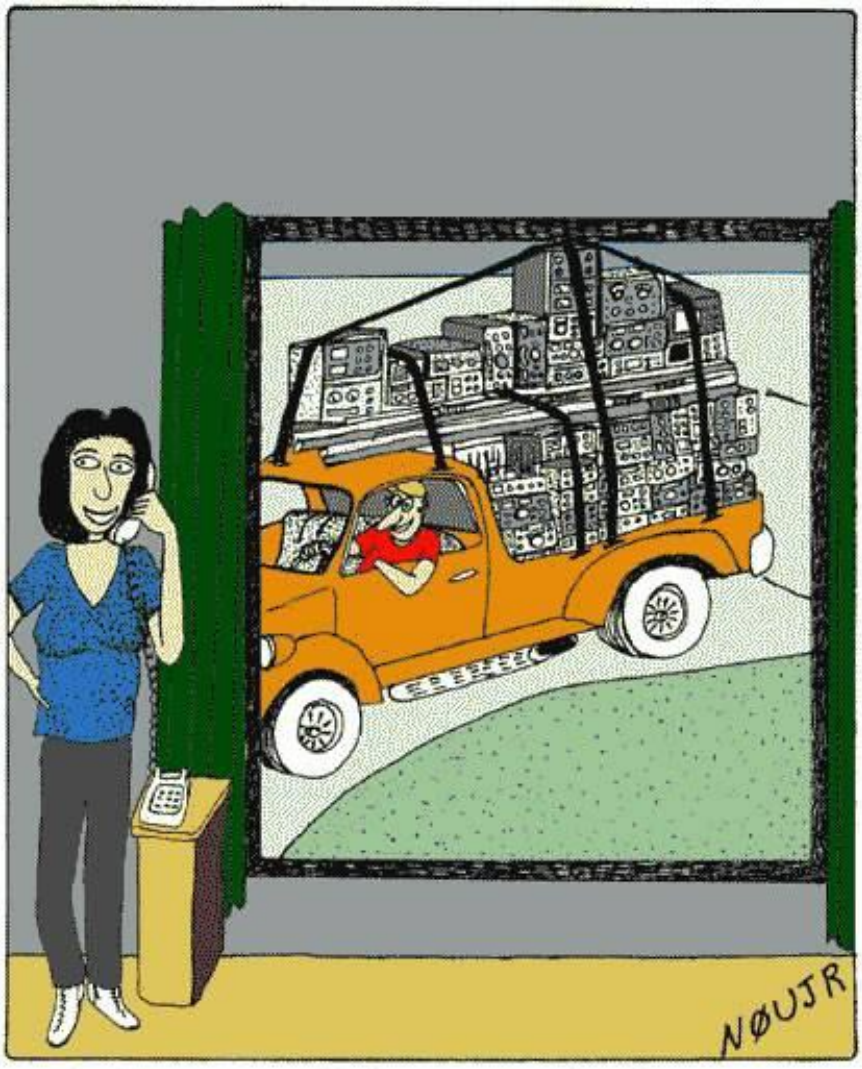
1960 → *2022*

Radio Electronics Group – Annual Equipment Sale in May

You are invited to the Radio Electronics Group annual new and used equipment sale.
When: Saturday 20th May
Where: Glenview Club, 211 Peacockes Road,Fitzroy, Hamilton.
Start time Vendors: 8:30am
Doors Open: 10am
Vendors please email completed registration forms to <ZL1REGSALE@gmail.com>
The sale day team are looking forward to catching up with you all on the day.

73 de ZL1PO

John Lisignoli
President
Radio Electronics Group (Inc.)
Mob: 0212045990



"No Greg went to the ham auction this afternoon, to get rid of a couple old radios that were cluttering up the place...Oh I think I hear him pulling in now!"

The next official broadcast will be held Sunday 30th April 2023

2023 QRP DAY (JUNE 17)

The interest in QRP activities is everlasting in amateur radio community worldwide. QRP radio communications testify high ability of radio amateurs, and offers advantages concerning, among others, the reduction of QRM on the amateur bands.

The 10th IARU Region 3 Conference held in September 1997 in Beijing has resolved the following recommendations based on the document (97/X/14) submitted by NZART, which says; "That Region 3 Societies help to promote the IARU objectives for QRP operation, specifically:

i) to support QRP operation on June 17 each year;
ii) to foster QRP activities by their members;
iii) to encourage regular publication of QRP articles in their national magazines;
iv) to provide QRP sections in any national contests; and
v) to assist other Societies with the promotion and development of QRP."

Accordingly, member Societies are requested to note the above resolution and take appropriate actions with reference to the holdings of the following events, for example, in order to contribute to more effective use of radio spectrum:

1) QRP Field Day;
2) QRP Contest;
3) Distribution of QRP Transmitter Kits and Reference Book; and
4) Workshop of QRP Operation.

2023 IARU HF WORLD CHAMPIONSHIP CONTEST (JULY)

The 2023 IARU HF World Championship Contest takes place the second full weekend of July, beginning 1200 UTC Saturday and ending 1200 UTC Sunday (8-9 July 2023).
Both Single and Multi operator stations may operate the entire 24-hour period.

All licensed amateurs worldwide are eligible to participate in this contest.

The objective of this contest is to contact as many other amateurs as possible, especially IARU

member society HQ stations, around the world using the 160, 80, 40, 20, 15 and 10 meter bands.

Multipliers are the total number of ITU zones plus IARU member society HQ stations worked on each band (not mode).
Thus, your Society's HQ stations participation is very important for the multipliers.

IARU officials represent a maximum of four multipliers per band (AC, R1, R2 and R3).

Our two regional AC members have the option of using "AC" or our regional designator "R3".

Regional EC members who are not AC members must use our designator "R3".

You can find the complete rules at; http://www.arrl.org/iaru-hf-world-championship

Enjoy and good luck!

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.
	19:00	146.700	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
	20:00	3.605	Br 80. Hibiscus Coast
	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	11:30	3.850	SPAM Net
	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	20:30	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:

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

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
	ZL1RJS	Rob Stokes	021 307 005
	ZL1RIC	Ricky Hodge	027 533 8155
	ZL4MDE	Mike Enderby	021 529 895
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
146.625 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)