

# The Official Newsletter of the **PAPAKURA RADIO CLUB INC.**



*October 2021*



*And Just like that, My mask made me a Good Guy!*



## CONTENTS ...

<b>CONTENTS</b>	<b>2</b>
<b>CLUB ACTIVITY</b>	<b>3</b>
<b>UPCOMING ACTIVITIES</b>	<b>4</b>
<b>DX NEWS</b>	<b>5</b>
<b>CONTESTS</b>	<b>6</b>
<b>WHAT'S UP WITH THE SOLAR FLUX?</b>	<b>7</b>
<b>RAMBLINGS FROM THE EDITOR'S DESK</b>	<b>9</b>
<b>TECH TIP – HOMEOWNER ELECTRICAL WORK.</b>	<b>11</b>
<b>ABOUT THE TANGLED WORLD OF MRNA</b>	<b>15</b>
<b>HEARD ABOUT THE SCENES</b>	<b>18</b>
<b>NETS LIST</b> (REACH OUT AND TOUCH SOMEONE)	<b>22</b>
<b>CLUB CONTACT INFORMATION</b>	<b>23</b>

### This Month's Meetings:

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

### Meetings for September.

Meetings will only occur at alert level 2 or lower. We cannot have social meetings at level 4 or 3. This means we will only open the clubrooms on Wednesdays when we are at alert levels 1 or 2 following current government guidelines.

Wed 6 September – ~~General Meeting, TBA~~ — On Hold

Wed 13 September – ~~Activity Night~~ — TBC

Wed 20 September – ~~Committee Meeting~~ — A Virtual Meeting may be scheduled

Wed 27 September – ~~Project Night~~

## CLUB ACTIVITY:

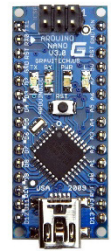
While off to a good start the Arduino training is on hold – While we explored options for online training to continue, no solution was found. Waiting is the best we can do since meetings are likely to remain on hold for some time to come.

## UPCOMING PROJECTS:

### PROJECT AND ACTIVITY NIGHTS

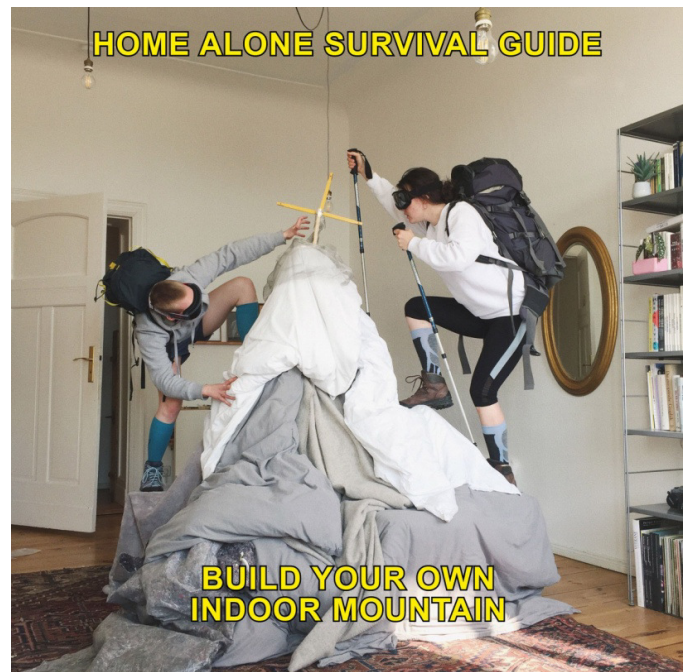
On Hold until further notice – Like most of Life

AREC training will be rescheduled on return to alert level 2 or lower



Some Lockdown Survival Hints:

**HOW TO SOTA DURING A LOCKDOWN ,,,  
AND DON'T FORGET ESSENTIAL SUPPLIES**



## Essential Gear

**Backpack that is as big as you are:** When camping, your worth as a human being is determined by how much you can carry without complaining about it.

**Neckerchief:** Campers always have these in cartoons. I don't know what it's for, but why risk being without it?

**Iodine Tablets:** Can be used to sterilize water, and withheld from other campers for leverage.

**Compass:** Perfect for drawing circles. What? Wait, you meant the other kind of compass? Yeah, I thought it was weird, but you said you knew what you were doing. This isn't my fault! You should be more clear.

**Pocket Knife:** Can cut through even the toughest sticks of butter.

**Fleshlight:** I thought you said -- THIS ISN'T MY FAULT!

CollegeHumor

## Zombie survival tip: alcohols are your friends



- 1.alcohol can be used to neutralize dirty water
- 2.alcohol can be used to clean wounds.
- 3.In a bad situation, you can drink your ass off to get rid of the fear.
- 4.Its a lot lighter to carry a bottle of alcohol to neutralize dirty water, than carry the same amount of water the alcohol could neutralize.
- 5.Its burnable. (molotov cocktails, yay)
- 6.The bottle works as a melee weapon (only some brands)
- 7.the bottle can be broken to get broken glass, extremely sharp and useful.
- 8.Can be used in trading.
- 9.A handit wont shoot you straight away, because then he would risk breaking the bottle.
- 10.Can be used for cleaning, not sure how that is gonna benefit you in a zombie apocalypse, but hey: everything counts.

**Tip:** Always choose the purest alcohol possible. A beer isnt going to help you at all, but (for an example) vodka is pure enough to be usable.

**Tip2:** Choose drinkable alcohols, a handwash is pretty much useless.



## UPCOMING ACTIVITIES:

(ALERT LEVELS PERMITTING)

WEDNESDAY 6 SEPTEMBER – GENERAL MEETING

ALT 690 NET

WEDNESDAY 13 SEPTEMBER – ACTIVITY NIGHT

ALT 690 NET

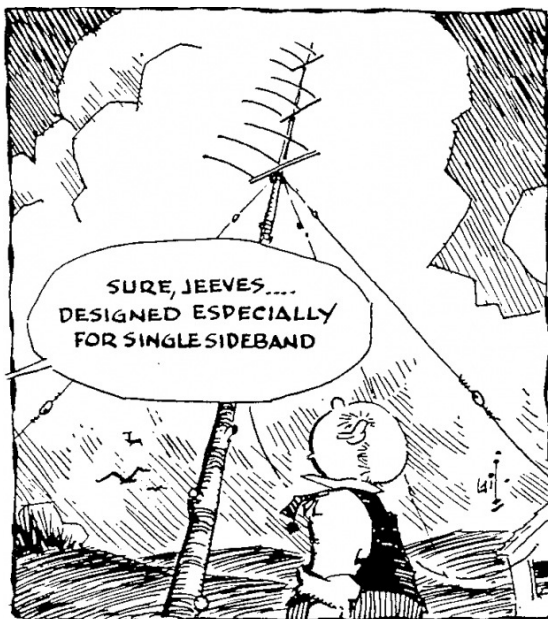
WEDNESDAY 20 SEPTEMBER – COMMITTEE MEETING

ALT 690 NET

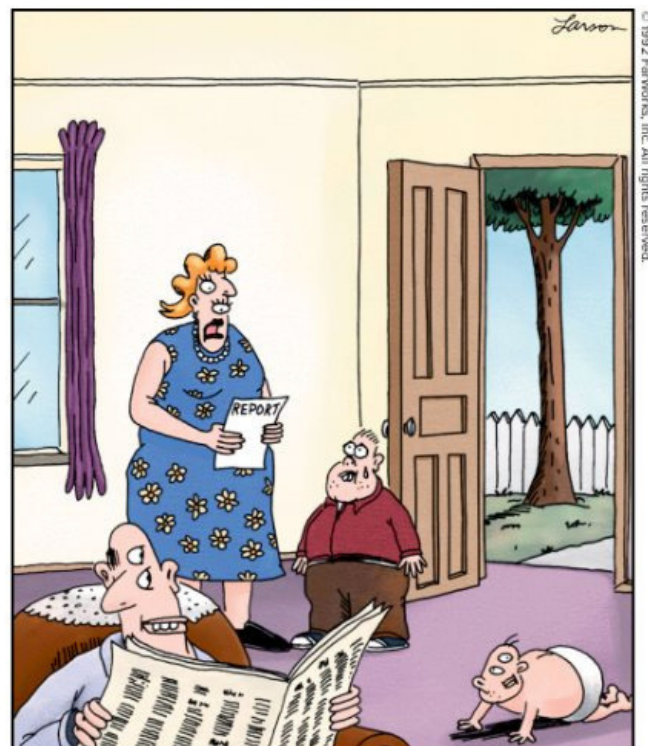
WEDNESDAY 27 SEPTEMBER – PROJECT NIGHT

ALT 690 NET

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



April, 1961



"Good heavens! Pablo got an 'F' in art! ... Well, I'm just going to go down to that school myself and meet this teacher face to face!"

# DX Calendar August 2021

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
<a href="#">D60AC</a> <a href="#">D60AD</a>					<a href="#">JW7XK</a> <a href="#">JW6VM</a> <a href="#">JW9DL</a> <a href="#">JW5X</a>																							<a href="#">OX7A</a>				
<a href="#">3D2CR</a>							<a href="#">J5T J5HKT</a>																							<a href="#">IH9YMC</a>		
<a href="#">PX8L</a>							<a href="#">PZ5G PZ5GE PZ5ZS</a>																								<a href="#">CQ3W</a>	
<a href="#">8Q7CQ</a>																											<a href="#">KH7M</a>					
	<a href="#">S9OK</a>																							<a href="#">TO7O FM/EA1BP</a>								
																									<a href="#">HD8R</a>							
																								<a href="#">PJ5/W5JON</a>								
																								<a href="#">C6AHB</a>								
																								<a href="#">CS9/PD3EM</a>								
																								<a href="#">C5C</a>								
																						<a href="#">3DA0RU</a>										
																	<a href="#">P40W</a>															
												<a href="#">V47JA</a>																				
											<a href="#">JW6VDA</a>																					
<a href="#">VP5MA</a>																																
<a href="#">8Q7RM</a>																																
<a href="#">C92R</a>																																
<a href="#">A35JP</a>																																
<a href="#">KC4USV</a>																																
<a href="#">J68HZ</a>																																
<a href="#">JG8NQJ/JD1</a>																																
<a href="#">5H3MB</a>																																

Featured:

## A35JP Tongatapu Island –Tonga

Masa, JA0RQV will be active again as A35JP from Tongatapu Island, IOTA OC - 049, from 1 September - 31 October 2021. He will operate on 80 - 6m, CW, SSB, FT8.



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

# CONTESTS OCTOBER 2021

Date-Time	Date-Time	Bands	Contest Name	Mode	Exchange	Sponsor's Website
2 0600	3 0600	1.8-28	Oceania DX Contest, Phone	Ph	RS, serial	<a href="http://www.oceaniadxcontest.com">www.oceaniadxcontest.com</a>
2 0600	3 1800	3.5-28	TRC DX Contest	CW Ph	RST, serial, "TRC" if member	<a href="http://trcdx.org/rules-trc-dx">trcdx.org/rules-trc-dx</a>
2 0700	2 1000	3.5, 7	German Telegraphy Contest	CW	RST, LDK (if member)	<a href="http://agcw.de/index.php/en">agcw.de/index.php/en</a>
2 1200	3 1159	1.8-28	Russian WW Digital Contest	Dig	RST(Q), oblast code or serial	<a href="http://www.rdrclub.ru">www.rdrclub.ru</a>
2 1300	2 1330	144	Two-Meter Classic Sprint	CW Ph	Serial, 4-char grid square	<a href="http://fwrc.info/2021/05/21">fwrc.info/2021/05/21</a>
2 1600	3 1100	3.5, 7	International Hell-Contest	Dig	RST, serial	<a href="http://darc.de/der-club/referate/conteste">darc.de/der-club/referate/conteste</a>
2 1600	3 2200	1.8-28	California QSO Party	CW Ph	Serial CA county or SPC	<a href="http://www.cqp.org/Rules.html">www.cqp.org/Rules.html</a>
2 1800	3 1800	All	SKCC QSO Party	CW	RST, SPC, name, 4-char grid	<a href="http://www.skccgroup.com">www.skccgroup.com</a>
3 0500	3 2300	3.5-28	RSGB DX Contest	CW Ph	RS(T), serial	<a href="http://www.rsgbcc.org/hf">www.rsgbcc.org/hf</a>
3 0600	3 0900	3.5	UBA ON Contest, SSB	Ph	RS, serial, ON Section (if ON)	<a href="http://uba.be/en/hf/contest-rules">uba.be/en/hf/contest-rules</a>
3 2200	3 2359	3.5-14	Peanut Power QRP Sprint	CW Ph	RS(T), SPC, peanut nr or power	<a href="http://nogagr.org/PeanutPower">nogagr.org/PeanutPower</a>
4 1900	4 2030	3.5	RSGB 80-Meter Autumn Series, CW	CW	RST, serial	<a href="http://www.rsgbcc.org/hf">www.rsgbcc.org/hf</a>
5 0100	5 0300	3.5-28	ARS Spartan Sprint	CW	RST, SPC,	<a href="http://arsqr.blogspot.com">arsqr.blogspot.com</a>
6 1700	6 2000	144	VHF-UHF FT8 Activity Contest	Dig	4-char grid square	<a href="http://ft8activity.eu/index.php/en">ft8activity.eu/index.php/en</a>
6 1900	6 2300	432	432 MHz Fall Sprint	CW Ph Dig	4-char grid square	<a href="http://svhfs.org">svhfs.org</a>
6 2000	6 2100	3.5	UKEICC 80-Meter Contest	Ph	6-char grid square	<a href="http://ukeicc.com/80m-rules.php">ukeicc.com/80m-rules.php</a>
7 1700	7 2000	3.5	SARL 80-Meter QSO Party	Ph	RS, serial, grid locator	<a href="http://www.sarl.org.za">www.sarl.org.za</a>
7 1700	7 2100	28	NRAU 10-Meter Activity Contest	CW Ph Dig	RS(T), 6-char grid	<a href="http://nrrlcontest.no">nrrlcontest.no</a>
7 1900	7 2100	1.8-50	SKCC Sprint Europe	CW	RST, SPC, name, mbr or "none"	<a href="http://www.skccgroup.com">www.skccgroup.com</a>
8 1400	9 0200	All	YLRL DX/NA YL Anniversary Contest	CW DigPh	Serial, RS(T), SPC	<a href="http://ylrl.org/wp/dx-na-yl-contest">ylrl.org/wp/dx-na-yl-contest</a>
9 0000	9 2359	1.8-28	QRP ARCI Fall QSO Party	CW	RST, SPC, mbr or power	<a href="http://qrparci.org">qrparci.org</a>
9 0000	10 1559	3.5-28	Makrothen RTTY Contest	Dig	4-char grid square	<a href="http://www.pl259.org/makrothen">www.pl259.org/makrothen</a>
9 0300	10 2100	1.8-UHF	Nevada QSO Party	CW Ph	RS(T), NV county or ARRL section	<a href="http://nvqso.com/contest-rules">nvqso.com/contest-rules</a>
9 0600	10 0600	1.8-28	Oceania DX Contest, CW	CW	RST, serial	<a href="http://www.oceaniadxcontest.com">www.oceaniadxcontest.com</a>
9 0800	9 1400	902 and up	Microwave Fall Sprint	CW Ph Dig	6-char grid square	<a href="http://svhfs.org">svhfs.org</a>
9 1200	10 1200	3.5-28	Scandinavian Activity Contest, SSB	Ph	RST, serial	<a href="http://www.sactest.net">www.sactest.net</a>
9 1200	10 2359	1.8-50	SKCC Weekend Sprintathon	CW	RST, SPC, name, mbr or "none"	<a href="http://www.skccgroup.com">www.skccgroup.com</a>
9 1500	10 0500	1.8-144	Arizona QSO Party	CW Ph Dig	RS(T), AZ county or SPC	
9 1600	10 0400	144-432	Cosack's Honor VHF/UHF Contest	CW Ph Dig	RS(T), serial, 6-char grid	<a href="http://cshonor-vhf.ho.ua/eng1.html">cshonor-vhf.ho.ua/eng1.html</a>
9 1600	10 2200	1.8-UHF	Pennsylvania QSO Party	CW Ph	Serial, PA county or ARRL section	
9 1800	10 1800	1.8-144	South Dakota QSO Party	CW Ph Dig	RS(T), SD county or SPC	<a href="http://www.sdgso.party.com">www.sdgso.party.com</a>
9 2000	10 2000	1.8	160-Meter Great Pumpkin Sprint	Dig	RST, SPC	<a href="http://www.podxs070.com">www.podxs070.com</a>
10 0001	10 2359	28	10-10 International 10-10 Day Sprint	CW Ph Dig	Name, mbr or "0," SPC	<a href="http://www.ten-ten.org">www.ten-ten.org</a>
10 0600	10 0900	3.5	UBA ON Contest, CW	CW	RST, serial, ON Section (if ON)	<a href="http://uba.be/en/hf/contest-rules">uba.be/en/hf/contest-rules</a>
11 0000	11 0200	1.8-28	4 States QRP Second Sunday Sprint	CW Ph	RS(T), SPC, mbr or power	<a href="http://www.4sqrp.com">www.4sqrp.com</a>
13 0030	13 0230	3.5-14	NAQCC CW Sprint	CW	RST, SPC, mbr or power	<a href="http://naqcc.info">naqcc.info</a>
13 1700	13 2000	432	VHF-UHF FT8 Activity Contest	Dig	4-char grid square	<a href="http://ft8activity.eu/index.php/en">ft8activity.eu/index.php/en</a>
13 1900	13 2030	3.5	RSGB 80-Meter Autumn Series, Data	Dig	RST, serial	<a href="http://www.rsgbcc.org/hf">www.rsgbcc.org/hf</a>
16 0000	17 2359	3.5-28	JARTS WW RTTY Contest	Dig	RST, age of operator	<a href="http://jarts.jp/rules2021.html">jarts.jp/rules2021.html</a>
16 0001	17 2359	28	10-10 International Fall Contest, CW	CW	Name, mbr or "0," SPC	<a href="http://www.ten-ten.org">www.ten-ten.org</a>
16 1400	17 0200	All	New York QSO Party	CW Ph Dig	RS(T), NY county or SPC	
16 1500	17 1459	3.5-28	Worked All Germany Contest	CW Ph	RS(T), DOK or "NM" or serial	<a href="http://darc.de/der-club/referate/conteste">darc.de/der-club/referate/conteste</a>
16 2000	16 2359	1.8-7, 21-50	Feld Hell Sprint	Dig	RST, mbr, SPC, grid	<a href="http://sites.google.com/site/feldhellclub">sites.google.com/site/feldhellclub</a>
16 2130	16 2230	7	Argentina National 7 MHz Contest	Ph	RS, 2-digit year first licensed	<a href="http://www.lu4aa.org">www.lu4aa.org</a>
17 0000	17 0200	14, 21	Asia-Pacific Fall Sprint, CW	CW	RST, serial	<a href="http://jsfc.org/apsprint">jsfc.org/apsprint</a>
17 0700	17 1000	144	UBA ON Contest, 2 Meters	CW Ph	RS(T), serial, ON Section (if ON)	<a href="http://uba.be/en/hf/contest-rules">uba.be/en/hf/contest-rules</a>
17 1700	18 0100	1.8-144	Illinois QSO Party	Ph	RS(T), IL county or SPC	<a href="http://www.w9awe.org/ilqp">www.w9awe.org/ilqp</a>
17 1900	17 2030	3.5	RSGB RoLo CW	CW	RST, previous 6-char grid received	<a href="http://www.rsgbcc.org/hf">www.rsgbcc.org/hf</a>
17 2300	18 0100	1.8-28	Run for the Bacon QRP Contest	CW	RST, SPC, mbr or power	<a href="http://qrptest.com/pigrun">qrptest.com/pigrun</a>
18 1300	22 2359	All	ARRL School Club Roundup	CW Ph	RS(T), Class (I/C/S), SPC	<a href="http://arrl.org/school-club-roundup">arrl.org/school-club-roundup</a>
18 1900	18 2030	3.5-14	RSGB FT4 Contest Series	Dig	4-char grid square	<a href="http://www.rsgbcc.org/hf">www.rsgbcc.org/hf</a>
20 1900	20 2030	3.5	AGCW Semi-Automatic Key Evening	CW	RST, serial, year first used a bug	<a href="http://alt.agcw.de/index.php/en">alt.agcw.de/index.php/en</a>
23 0000	24 2359	2.3 GHz and up	ARRL EME Contest	CW Ph Dig	Signal report	<a href="http://arrl.org/eme-contest">arrl.org/eme-contest</a>
23 1200	24 1200	3.5-28	UK/EI DX Contest, SSB	Ph	RS, serial, District Code (if UK/EI)	<a href="http://ukeicc.com/dx-contest-rules.php">ukeicc.com/dx-contest-rules.php</a>
23 1500	24 1500	1.8	Stew Perry Topband Challenge	CW	4-char grid square	<a href="http://www.kkn.net/stew">www.kkn.net/stew</a>
24 0000	24 0400	3.5-14	North American SSB Sprint Contest	Ph	Other's call, your call, serial, name, SPC	<a href="http://ssbsprint.com/rules">ssbsprint.com/rules</a>
24 1400	27 0800	1.8-144	Classic Exchange, CW	CW	Name, RST, SPC, radio model	<a href="http://www.classicexchange.org">www.classicexchange.org</a>
24 1800	26 0300	1.8-UHF	Telephone Pioneers QSO Party	CW Ph Dig	Chapter nr or RS(T), name	<a href="http://www.tpqso.com">www.tpqso.com</a>
27 0000	27 0200	1.8-50	SKCC Sprint	CW	RST, SPC, name, mbr or "none"	<a href="http://www.skccgroup.com">www.skccgroup.com</a>
27 2000	27 2100	3.5	UKEICC 80-Meter Contest	CW	6-char grid square	<a href="http://ukeicc.com/80m-rules.php">ukeicc.com/80m-rules.php</a>
28 1900	28 2030	3.5	RSGB 80-Meter Autumn Series, SSB	Ph	RS, serial	<a href="http://www.rsgbcc.org/hf">www.rsgbcc.org/hf</a>
29 1600	29 2359	3.5-14	Zombie Shuffle	CW	RST, SPC, Zombie nr or area code, name	<a href="http://www.zianet.com/grp">www.zianet.com/grp</a>
30 0000	31 2359	1.8-28	CQ Worldwide DX Contest, SSB	Ph	RS, CQ Zone	

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

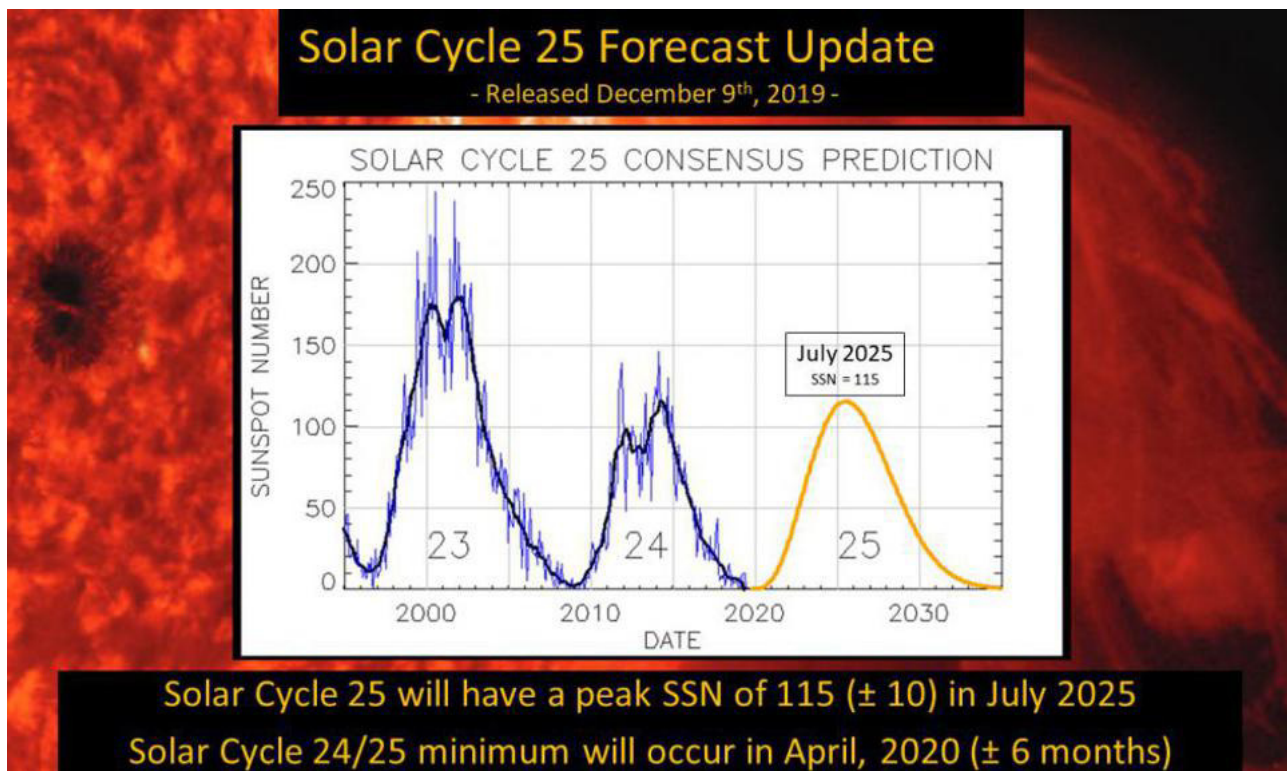
[www.contestcalendar.com](http://www.contestcalendar.com)

Check for updates and a downloadable PDF version online at [www.arrl.org/contests](http://www.arrl.org/contests).



## SOLAR CYCLE 25 – WHAT GIVES?

Despite predictions of a weak solar cycle 25 with levels similar to Cycle 24, by the likes of NOAA, and predictions of a possible Maunder Minimum, recent activity has many reconsidering their positions.

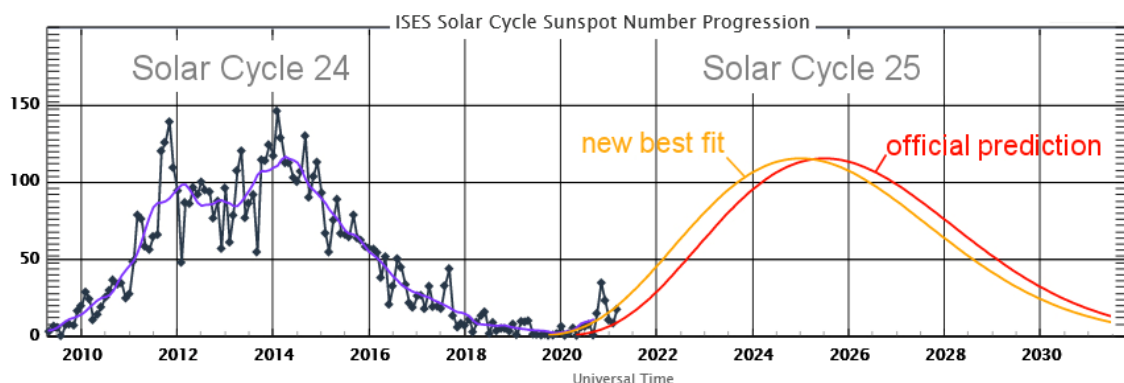


*The Original Prediction from NOAA*

The dissenting view published by Scott McIntosh, Sandra Chapman, L Lemon Ricky Egeland and Nicolas Watson, on the 13<sup>th</sup> of October, discusses how overlapping magnetic fields, The 22-year magnetic cycle and 270 years of the 11-year sunspot cycles, and makes an outstanding claim that “Given this relationship and our prediction of a terminator event in 2020, we deduce that Sunspot Cycle 25 could have a magnitude that rivals the top few since records began. This outcome would be in stark contrast to the community consensus estimate of sunspot cycle 25 magnitude.” at the time of publication, was surely a bold and risky claim for the paper's authors.

But might they be right?

The solar cycle is running ahead of schedule, and while the newer NOAA modelling shows the same low cycle, but an earlier peak, there is still a tantalizing opportunity for a higher peak



Just 4 weeks ago, the Sun's solar flux stood at ~79 sfu (Solar Flux Units) but then over a week climbed rapidly to 110. With several active sunspot regions on the earth-facing side of the Sun and several actively flaring groups about to rotate into view on the backside, it seems as if this sudden growth may be sustainable.

The Solar Flux values fell rapidly, back into the mid-70s as the sun rotated, but then quickly returned to the 90s as the sun rotated, and has continued to climb, with a larger extended region lifting the 10.7 cm flux, and giving some pretty exciting propagation on the dayside.

Another interesting indicator of a new cycle's possible future strength is the number of months needed to reach an average **monthly SFI of '90'**. Strong cycles tend to climb early and rapidly, to reach their lofty heights.

The strongest cycle on record was **Cycle 19**, the granddaddy of them all, while reaching this would be awesome, It's unlikely to be that good, But cycle 19 reached the SFI 90 value in only 18 months ... Cycle 25 has reached **this same point in just 12 months!** If this is indeed an accurate marker for cycle strength, and there is no reason to believe otherwise, then maybe we should be getting ready for a wild ride.

An over-simplification of the methodologies used to develop their prediction describes the study of the complex relationship involving the Sun's 22-year (Hale) magnetic cycle, the endpoints of adjoining cycles called 'terminations' and sunspot production, to predict the eventual strength of the new cycle. Remember the 11-year and 22-year cycles are not exact and vary in length and also start-stop times. How they interact and when each cycle finishes is the key to the research.

The end of the cycle or 'terminator' event is thought to play a significant role in the new cycle's progress, and the shorter the separation between adjoining terminators, the stronger the next cycle will be. The possibilities of Cycle 25 being a truly strong one depends upon (according to the paper) a terminator event occurring sometime before the end of 2021. Little is known of how to measure a termination, but as the sunspots should be sitting below 40, But are averaging 38.4 per month and peaking between 80 and 100, The rise of cycle 25 is well ahead of every prediction and model to date. But a bigger than cycle 19 is looking much less likely, But it is still very possible to be better than cycle 24

This and other significant indicators of the cycles are the sorts of things the parker solar probe is trying to collect data on as it continues to orbit in ever-decreasing orbits through the sun's corona until it finally dives into the depths of the sun.

In the meantime, enjoy the strong signal opportunities now playing on 10m and 15m ... these bands are back once again and in fine form ... way earlier than anyone ever expected! Of course, 20 metres is also giving some great contacts for ZL and VK operators, even without the big amplifiers that dominate the band on occasions. But my 100 watts, can compete, be heard and get 5/8 reports. So let's keep watching. We know it's variable, but if you get the timing right, the DX can be great.

If we ever escape Auckland again, taking the camper to Castlepoint, or maybe some other deserted spot, with low noise, may get very appealing.





## RAMBLINGS FROM THE EDITORS DESK

Well, it's October, and the Auckland lockdown continues, The club remains closed, and while the border might be closed, level 3 in Auckland seems to be more like a level 2 for some. Covid remains the only news and Auckland still has community transmission.

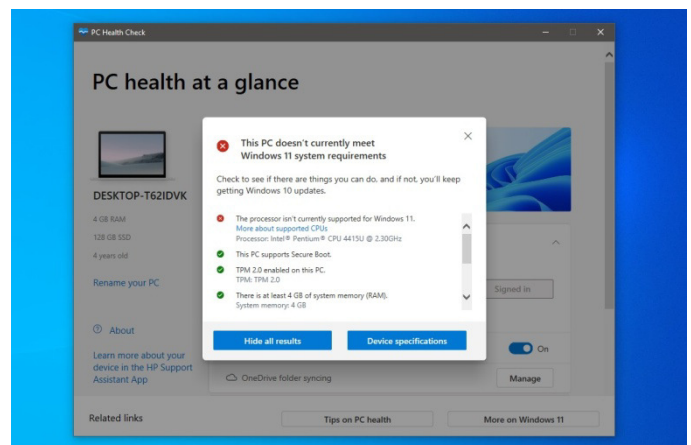
And that is more than enough of that topic.

With the clubrooms off-limits, it's a good time to consider the jobs around the home station, or even home, for me, this has meant adapting to the idea that working from home will not be a one-off, and perhaps a long haul, so I have had to have a long look at how best to set up a home office that works, helps me maintain good posture, and have access to all I will need to try and operate as if I was in the office.

While this is not too difficult for me, it does have some impact on how I layout the office, not only for my ease of use, but also for what others will see when they video conference with me, and so the Ham shack is getting a third re-design. This idea of remote working is not new, but this time it seems that people have moved to it faster, and the expectations of how well it should work have risen. The new technology has been adopted, and people expect that you will be equipped to use it, Sadly the same is not true for the ham radio, With the klondyke repeater down, and the need for some serious work to be done on some failed cable supports, most have adapted to either simplex or the choice of 690 or 670 (I assume 5775 is getting some traffic, but its a hard reach from here) yet these remain strangely quiet. The large big lift in traffic we saw last year has not eventuated, the "nets" are just the same few who were there while the rest of us were working, and it seems like most have drifted away from connecting via the radio.

Maybe the improved DX on 40 and 20 has drawn them away, but I suspect that either fatigue or alternative technologies may be winning this time around. Is there any answer to this? I am unsure, but I worry that the social connection aspect of ham radio might not be there anymore, and what does that mean for the future of the hobby? Are we being drawn away by the new and the shiny?

In two weeks Microsoft will be releasing Windows 11, An upgrade to a new era in the PC world, In my workshop I have 8 PC's which I use for work, hobby and personal use, Just for fun, I ran the windows 11 health check application over them, and to even my surprise, all failed. Not one of the processors was supported. This included a 4-year-old Microsoft branded tablet/laptop. So no upgrade for me, Not that I care, but as support for these is turned off over time, the only alternative will be for these to run Linux (most already do), I am lucky, this is not a big change for me, but with the workplace reliance on office 365, and I note AREC is also using it.



I wonder how will non-windows users fare in a world where so many applications only work for a windows PC. So Mac and Linux users as well as Chromebook (android) users are unable to participate in activities unless they buy some new hardware.

I found a similar issue with my phone when Slack (used for POTA announcements) was no longer available for my phone, as the OS was now out of date. Even the official QR code Scanning application, only works when you have mobile data, something I have not purchased, as I have never needed it, Luckily (after some help from our IT team) my work phone can support it for me, but it shows a divide between those who have the new toys, and those of us, happy to keep using 9-year-old technology ... Because it does everything I need. But in the new world, Will it be good enough?

Ham radios also have a seductive lure of the “new”. New modes, new features, internet connectivity and wireless connectivity, Sound enhancements, PC interconnection, and large screen displays, all packed into a lightweight portable gadget. The “must-have” for every ham, Yet I am running both an ICOM 7300 and an old Kenwood TS-930, and the 930 has a better sound and can pull out weak signals way better than the 7300, It's harder to operate, has fewer features, but I'm drawn to it despite its weight, ... it just works. The Yeasu 902-DM is even harder to operate yet it too has a great sound, and I am still working on the two FT-101's – But the received audio sounds awesome. Don't get me wrong I love my Icom 7300, especially the waterfall, and my IC-706 too, they are ideal for quick use, and I couldn't live without them as my mobile in the campervan, But I still love the older base station rigs. Does this make me a dinosaur? If so I wear the badge with pride.



But if we all move to digital, If we need to have an internet connection to make our gear work, If we start to relying too much on the things our radios connect to, and less on the radio's and antenna's then maybe we are at risk of becoming the next generation of fossils.

I'm not opposing moving on with the hobby, Weak signal modes allowed DX when the bands were closed, SSB extended the range beyond that of AM by concentrating Power, and FM brought a clarity and noise reduction, that AM could never offer, and Digital Voice modes can allow even better efficiencies. So technology is a friend, but over-dependence on it may be dulling our skills and senses, then what skills do we keep?

It's food for thought, Can we still just start with a set, some wire a battery and some basic tools, and make a field station, or are we becoming too dependant on the technology of others. Like so many, I was spoilt by the performance of 6625, and with it off the air, there is some challenge in working other repeaters as I drive around (when I get out) and I have had to shuffle some sets roles in the shack to compensate for a shift to other frequencies and repeaters, but it's made me think about the shack, and that's not a bad thing, It has made me think about my antennas, and that too is important, But if no-one else is interested in the frequencies or bands, who will be there to answer the call.

Like everyone else, I'm still holding out for the borders to open and to get the motorhome on the road, and work some Lakes, Parks and even some beaches for DX, the bands are opening, and the call of summer can be heard just over the horizon, But if we don't get out of Auckland, then will we adapt to making the most of our hobby locally? Will we still be able to operate without all the fancy gadgets?

It's food for thought

Now if the rain stops, then I might be able to complete the tech tips feeder comments for next month, Hopefully, the replacement I searched out this month will interest you, Until I can get back to documenting the near field effect on antenna's that has caused me a good deal of confusion, but hope to have sorted soon, Should be a fun read. Till Then ... 73

de ZL1NUX Qrt for now

# TECH- TIPS CORNER

## REPAIRING ELECTRICAL APPLIANCE'S

What can a homeowner legally do under the exemption?

One of the toughest things that I, as both an electrician and an industry trainer, to both registered and unregistered persons, is found in section 111 of the electricity act. But in reality, it's not that hard to understand.

### **111. Exemption for maintenance of domestic appliances –**

(1) Notwithstanding anything in section 108 of this Act, the owner of any electrical appliance may do any prescribed electrical work, or assist in doing any prescribed electrical work, in relation to that appliance, if–

- (a) The appliance is kept principally for the use of that person, or any near relative of that person, or both; and
- (b) The appliance is used principally for domestic purposes and not for commercial or industrial purposes; and
- (c) The work is within the limits prescribed in regulations made under section 169 of this Act for the purposes of this section; and
- (d) The work is carried out in accordance with the requirements of any regulations made under section 169 of this Act; and
- (e) The work is carried out in a competent manner; and
- (f) While that work is being carried out, the appliance is not connected to a power supply; and
- (g) Where required by regulations made under section 169 of this Act, the work is tested and certified by a registered electrical inspector in accordance with regulations made under that section before connection to a power supply.

(2) For the purposes of subsection (1) of this section, the term "near relative", in relation to any person, means–

- (a) A grandparent of that person;
- (b) A parent (including a step-parent) of that person;
- (c) A parent (including a step-parent) of that person's spouse;
- (d) A brother or sister of that person, including a half-brother or half-sister;
- (e) That person's spouse, which for the purposes of this section includes any person (including a person who is of the same gender as the first-mentioned person) with whom the first-mentioned person is living in a relationship in the nature of marriage although those persons are not legally married to each other;
- (f) A child (including a stepchild) of that person;
- (g) A child (including a stepchild) of that person's spouse;
- (h) A grandchild of that person.

This very important section is the one that allows us as Amateur radio operators to perform some electrical work, in this case servicing our equipment. So understanding it would allow us to understand what we can and cannot do.

But before we start this journey, let me sound the most important warning I can, Just because you might be allowed to do something, does not mean you should. If you do not know what you are doing, then leave it to the professional, Safety comes as we recognise our limits.

So assuming we can do it competently, and you don't get paid (and payment include koha or gifts), and you (or a close family member) own it, and it is used in a home (not one you rent out) and, you can unplug it, And it draws less than 10 amps at 230 volts, then you can legally do some electrical work on it.



The Electricity Safety Regulations state very clearly that you must use, and follow, ECP 50, otherwise, you cannot and must not do the work.

## 48. Maintenance of domestic appliances

For the purposes of section 111 of the Act, the owner of any electrical appliance may do any prescribed electrical work, or assist in doing any prescribed electrical work, in relation to that appliance, provided that the work is carried out in accordance with the requirements of ECP 50.

### What is ECP 50?

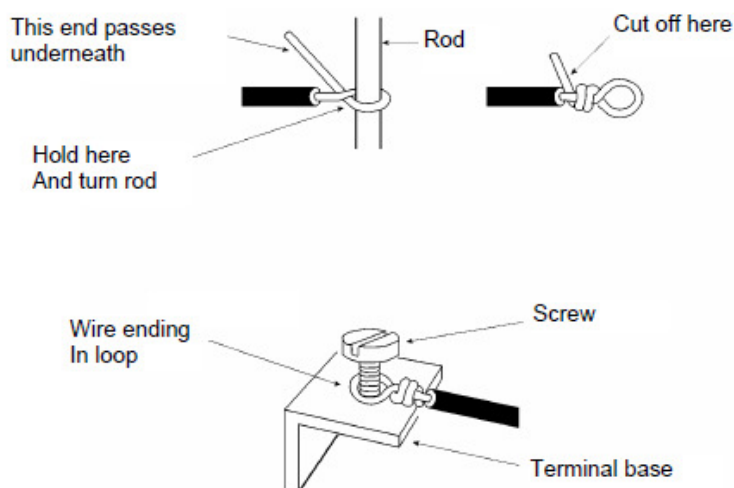
An ECP or “Electrical Code of Practice” is a document normally considered to be a voluntary standard, but when a Regulation such as 48 above (Regulation 90 also cites it as the method of testing the work done by an owner) then the document gains the same legal weight as a regulation, So this document must be followed, if we are to perform the work under NZ law.

The Good news is that ECP is free to get, and easy to follow, for example, to terminate a wire into a plug, socket, connector, rod or terminal, it should be prepared and connected as below

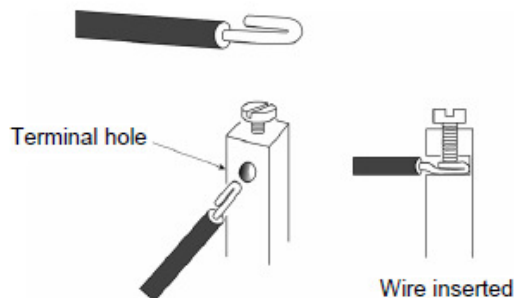
**FIGURE 4: WIRE WITH INSULATION REMOVED**



**FIGURE 5: WIRE WITH LOOP**



**FIGURE 6: WIRE DOUBLED OVER**





It also provides information on rewiring fuses, and even how to change a rewirable fuse with a plug type circuit breaker, it explains how long an extension cord can be, for a given size wire (remember you can only fix ones that are 10 amp rated), above this you need a registered person to do it, But you can assist.

**TABLE 3: MAXIMUM LENGTH OF FLEXIBLE CORD FOR EXTENSION LEADS**

Extension Lead Current Rating (Amps or A)	Wire Size (mm <sup>2</sup> )	Number of Strands in Each Wire	Maximum Length of Flexible Cord* (m)
10	1.0	32	10
	1.5	30	35
15	1.5	30	25
	2.5	50	40
20	2.5	50	30
	4.0	56	50
*NOTE: If longer cords are used the appliance may not operate satisfactorily and safely.			

### 2.3 CHOOSING THE RIGHT PLUG, SOCKET OR APPLIANCE CONNECTOR

Before replacing any plug, socket or appliance connector on a flexible cord, make sure that you have the correct one for the one you are going to replace. If you are replacing a plug, the plug should preferably have a section of the pins insulated. This new safety feature prevents accidental contact with the pins when unplugging from the socket-outlet.

**NOTE:** Most socket-outlets in domestic installations will only accept a 10 A plug with a maximum wattage of 2,300 W. Therefore, electrical appliances with wattages greater than 2,300 W can only be either fixed wired using a permanent connection unit or supplied by a higher rated socket-outlet, such as 15 or 20 A.

ECP 50 guide to extension cords.

Finally, ECP shows you how to test your work to be sure it's safe, to do this you will need a multimeter, and a basic understanding of how it works, but even that is explained in ECP 50.

And if you don't know, Bring it to the club, and we will teach you how to use it

ECP 50 is a highly valuable publication, and it's a free download from Worksafe <https://www.worksafe.govt.nz/laws-and-regulations/standards/electricity-standards-and-codes-of-practice/> About halfway down the page. While you're there you might like to look at ECP 51 - household wiring repairs, but for most of us, ECP 50 covers most of what we do.



### Final Warnings:

- Remember, if you open it you may void any warranty,
- If it's electronics (TV, Microwave,... etc), or Valve, then very high voltages (e.g . 600 - 15,000) Volts may be present
- You cannot service equipment above 10 amps (2,300 watts)
- You must not work on equipment operating at voltages other than 230 volts with ECP 51
- You do not need the ECP, or electrical registration if it's below 50 volts AC or 120Volts DC
- Safety First, If you don't know what you're doing. Leave it and get help from an expert. (that include registered people too.)



## A BRIEF HISTORY OF THE TANGLED WORLD OF MRNA

*While this article in no way indicates support for, or against, the Pfizer or Moderna Vaccines, it is interesting to get some perspective of the interesting history of mRNA research and the long and strange history from early experiments to the latest gene therapy research. No individual or company named is treated with any view other than that of published history. It is based on other articles published in Nature magazine and other scientific articles, and is provided as a matter of history and what facts we know of the research into mRNA and its absorption into cells.*

In late 1987, Robert Malone performed a landmark experiment. He mixed strands of messenger RNA with droplets of fat, to create a kind of molecular stew. Human cells bathed in this genetic gumbo absorbed the mRNA, and began producing proteins from it. This not only showed that mRNA could penetrate a cell and change its programming but it could do so even if it was “foreign” material. He could hi-jack the cell, and make it do something outside its normal design.

Realizing that this discovery might have far-reaching potential in medicine, Malone, a graduate student at the Salk Institute for Biological Studies in La Jolla, California, later jotted down some notes, which he signed and dated. If cells could create proteins from mRNA delivered into them, he wrote on 11 January 1988, it might be possible to “treat RNA as a drug”. Another member of the Salk lab signed the notes, too, for posterity.

Those experiments were a stepping stone towards two of the most important and profitable vaccines in history: the mRNA-based COVID-19 vaccines given to hundreds of millions of people around the world. Global sales of these are expected to top US\$50 billion in 2021 alone.

For many years after Malone’s experiments, which themselves had drawn on the work of other researchers, sat unwanted and unwelcomed, mRNA was seen as too unstable and expensive to be used as a drug or a vaccine, things, however, got complex when in 1990, Vical (with the University of Wisconsin) and Salk institute began filing for patents. What happened next is difficult to get to the bottom of, but the patents (along with Malone’s professor) and rights were transferred from Salk to Vical and Malone was only listed on these as one of many inventors. Malone left Vical as a result and focussed on DNA transfers and delivery technologies, including potential synthetic vaccines.

In 1991, Vical entered into a multimillion-dollar research collaboration and licensing pact with US firm Merck, one of the world’s largest vaccine developers. Merck scientists evaluated the mRNA technology in mice intending to create an influenza vaccine but then abandoned that approach. “The cost and feasibility of manufacturing were simply too expensive, and RNA was proving to be too unstable.

1993, a team at a small biotech firm in Strasbourg, France, called Transgène was the first to show that an mRNA in a liposome could elicit a specific antiviral immune response in mice and at the same time, scientists at the Scripps Research Institute in La Jolla used mRNA to replace a deficient protein in rats, to treat a metabolic disorder. The age of Gene therapy for mRNA had arrived. But due to rising costs and few results to show for the work their patents lapsed, as they could not justify the fees to keep the patents alive

In the 1990s and for most of the 2000s, nearly every vaccine company that considered working on mRNA opted to invest its resources elsewhere. The conventional wisdom held that mRNA was too prone to degradation, and its production too expensive.

The mRNA therapy idea had a more favourable reception in oncology circles. Beginning with the work of gene therapist David Curiel, several academic scientists and start-up companies explored whether mRNA could be used to combat cancer. If mRNA encoded proteins expressed by cancer cells, the thinking went, then injecting it into the body might train the immune system to attack those cells. The approach was looking promising until a few years ago when a late-stage candidate vaccine failed in a large trial; it has now largely fallen out of fashion.

By the late 2000s, several big pharmaceutical companies were entering the mRNA field. In 2008, for example, both Novartis and Shire established mRNA research units — the former (led by Geall) focused on vaccines, the latter (led by Heartlein) on therapeutics. BioNTech launched that year, and other start-ups soon entered the fray, bolstered by a 2012 decision by the US Defense Advanced Research Projects Agency to start funding industry researchers to study RNA vaccines and drugs. Moderna was one of the companies that built on this work and, by 2015, it had raised more than \$1 billion on the promise of harnessing mRNA to induce cells in the body to make their own medicines — thereby fixing diseases caused by missing or defective proteins. When that plan faltered, Moderna, led by chief executive Stéphane Bancel, chose to prioritize a less ambitious target: making vaccines.

That initially disappointed many investors and onlookers, because a vaccine platform seemed to be less transformative and lucrative. By the beginning of 2020, Moderna had advanced nine mRNA vaccine candidates for infectious diseases into people for testing. None was a slam-dunk success. Just one had progressed to a larger-phase trial. The DARPA funding had ended in 2017, and mRNA seemed like a fad. The future looked bleak. Not one mRNA treatment had been approved for use, and no mRNA vaccine had passed to allow human trials.

This changed in 2020 when Donald Trump, The then-president, passed legislation to fund “operation warp speed” to seek virus vaccines and therapies. Moderna was quick off the mark, creating a prototype vaccine within days of the virus’s genome sequence becoming available online. The company then collaborated with the US National Institute of Allergy and Infectious Diseases (NIAID) to conduct mouse studies and launch human trials, all within less than ten weeks. BioNTech, too, took an all-hands-on-deck approach. In March 2020, it partnered with New York-based drug company Pfizer, and clinical trials then moved at a record pace, going from first-in-human testing to emergency approval in less than eight months. A record for approval of any drug or vaccine.

Both authorized vaccines use modified mRNA formulated in LNPs. Both also contain sequences that encode a form of the SARS-CoV-2 spike protein, to which the body should then develop an immune response. Since the work of Malone and the Vical patents had only a 17-year life, these have long expired and are in the public domain, even the most recent patents have only 5 years of life remaining, and it seems very questionable as to whether there is anything left to patent.

At the same time, more conventional vaccines, which do not contain genetic material, (like the NovaVax, recently purchased by New Zealand) have caught up to the gene therapy approach and being cheaper to manufacture and matching the efficacy of mRNA vaccines, the question is will mRNA remain a vaccine technology or does its future lie in other therapies? To see the past clearly is hard enough, to see into the future is a gift we do not easily gain.

But the Nobel prize announcements in October 2021 will no doubt include some reference to the work of those who took this experimental work and made it a household name, and they have a disease called Covid-19 to thank. As Louis Pasteur, who used rabies from the spines of rabbits, to cure a boy bitten by a dog, and started the concept of vaccination, once said “Fortune favours the prepared mind”



## SEEN OR HEARD AROUND THE SCENES

### BATTERY POWER

If you're on the hunt for Batteries, Graham Street may have the answer,

*As a trusted Better Batt client you're the first to know that we've just added 60 new categories, expanding our range to a total of 6,490 batteries and chargers.*

*The new products are in stock with a delivery time of 15-20 days. Normally we ship all products from Melbourne or Sydney, however, because these categories are new, we're shipping them directly from Hong Kong until we have enough sales data to accurately predict demand.*

*I hope you're able to find more of what you need in our new selection.*

*Remember, stay charged, power up! <http://www.betterbatt.com.au>*

### STORING LITHIUM BATTERIES,

Storing a lithium battery below 30% for an extended period can cause it to sleep, Charging to between 40 - 70% before storage is the best way to ensure your battery will be good to go when you are ready to use it.

### END-FED 10-80 METRES

Pieter ZL1PDT has been heard on a few nets lately, and his antenna is a home brew end-fed 5 band antenna,



Nice job Pieter – Thanks for the plans and build notes

## PLANS FOR THE END FED.

What I use when portable with the caravan it is 12.5 meter long works fair can do for 10-80m as well that is what I did use on Sunday morning it is 22m long into the trees over a fishing rod

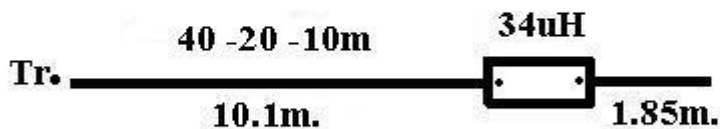
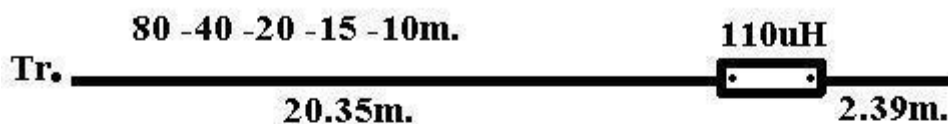
This is a 200 Watt PEP step-up transformer for end fed full and half-wave antennas without radials, designed as a 200 Watt PEP upgrade by PA0EJH for the originally Par Electronics designed 25 Watt HF ended multiband end-fed antenna.

The original design has a 27/3 turn ratio ( 1: 81 ) on a small 43 material toroid, but the larger toroid has more wire so the number of turns had to be reduced for max efficiency at 10m. The coil now has a 16/2 ratio ( 1: 64 ) For max. performance the 2 turns to the ground wires must be twisted. The 100-150pF capacitor gives a better match on 10m.and both windings start at the ground side of the coil.

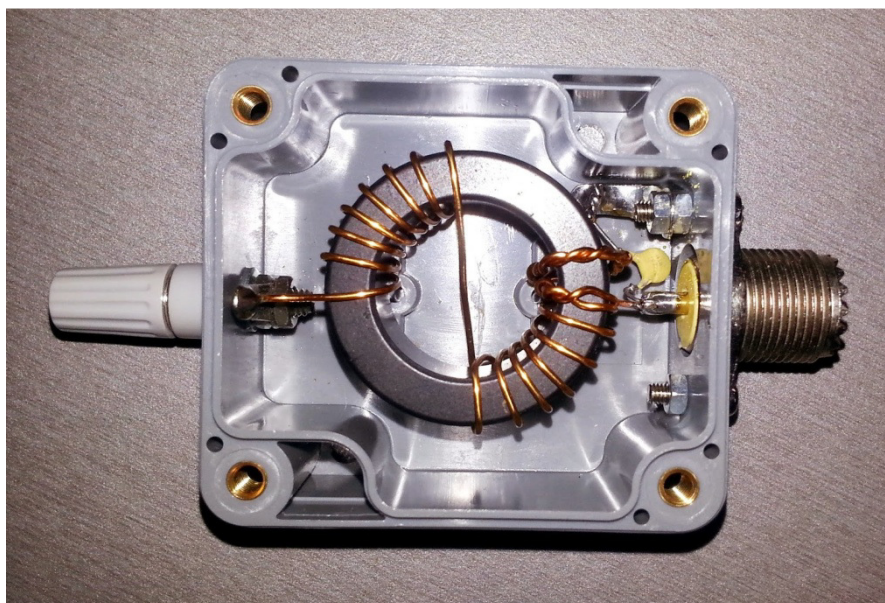
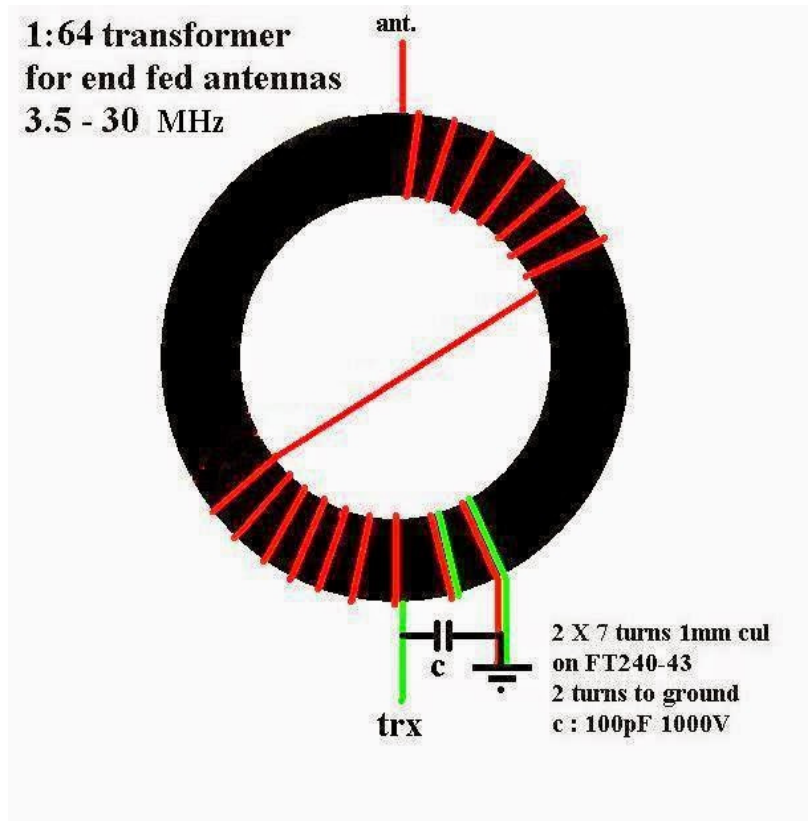
Don't try to stack toroids for more power for this will increase overall inductance. This makes it impossible to tune the high bands. The best results are obtained with a small toroid.....The 3 band antenna has a length of approx. 10.1m. followed by a coil of about 34 uH ( 90 turns 1mm transformer wire on a 19mm PVC tube ) and an endpiece of about 1.85m, offering you a near-perfect vertical or horizontal antenna for fieldwork at 40 -20 and 10m. There is also a 5 band version with approx. 20.35m wire followed by a 110 - 120uH coil ( about 260 turns 1 mm transformer wire on a 19mm PVC tube ) and an approx. 2.39m. endpiece. Use a longer wire for testing for surrounding objects can interact.

\*\*\* Start tuning the antenna by turning the long wire at the high bands with the coil and the endpiece attached, for the coil interacts. Many people do this the wrong way! Don't use any other type of toroid like the nr 2 or 6 mixes for the AL value of these toroids is far too low and will result in heavy losses. \*\*\*

This antenna works on 80 - 40 - 20 -15 and 10m.without radials and has a very low SWR combined with a low noise level. Keep in mind that every end fed / vertical needs some kind of counterpoise to push against and in this case that's the coax, so don't forget a line choke near to your transceiver.  
(Cul = transformer wire.)



**110uH coil : 260 turns 1mm. cul. 34uH coil : 90 turns  
1mm. cul close wound on a 19mm pvc tube  
start tuning the long wire on the high bands.**



**73 ZLIPDT**

Now ... Where did I put my Toroids and high voltage caps?

### **AREC SURVEY.**

All Papakura members of AREC should have received an invitation to complete an AREC survey, But due to the mail format, and the offer of rewards for completing it, the mail has been identified as Junk, and most users will find it in their junk Folder ( I found the reminder, but not the original), If you are involved with AREC, or plan to be, Make sure you have received it, otherwise contact David ZL1MR or Richard ZL1BNQ to arrange a copy to be re-sent

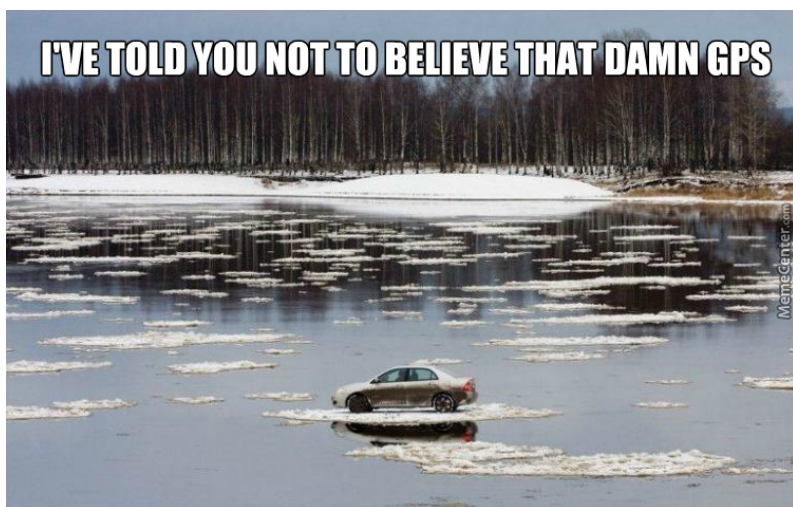


## END OF FINANCIAL YEAR.

A reminder from our treasurer that the end of the financial year has arrived, and with it the closing of our accounts, If you have any last invoices. Payments, ... etc that must be in the 2020-2021 year, please get this in before the 30<sup>th</sup> (Thursday) of September.

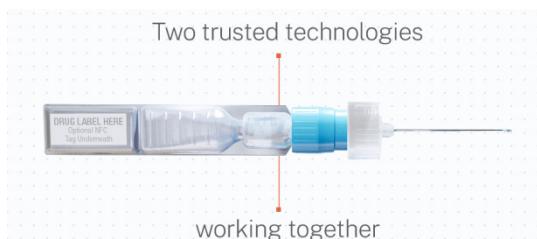
## SARTRAK & AREC TRAINING.

With the planned AREC training being cancelled due to Auckland going into alert level changes, Richard is planning to run SarTrak and some additional AREC training once we return to reduced alert levels. We hope that once Auckland drops to alert level 2, we might be able to look at this, assuming there are no new restrictions added to the current level 2 guidelines. We will keep members informed, once the government make their plans available.



## Weird Fact - Could RF-ID Chips “really” be injected into someone?

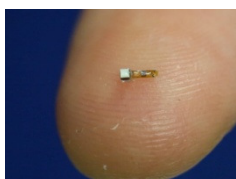
Yes, the technology is very available and in May 202 the USDepartment of Defense provided 138 million dollars (US) to further the development and simplify their use. The main developer is a company called Apiject in the USA. The current size of the rf-id chip is 1/8<sup>th</sup> the size of the chip currently injected to ID cats and dogs.



However the main use of the RFID and NFC tags at this time is to allow quick recording of the administers dose and rate, and the chip remains in the injector, It is not transferred to the patient.

So – Possible, but not currently permitted.

And no 5G receivers or active transmitters are not this small ... yet.





### THIS IS AN AMATEUR RADIO STATION.

IT IS LICENSED BY THE FEDERAL COMMUNICATIONS COMMISSION. I HAD TO LEARN THE MORSE CODE AND A LOT OF ELECTRONIC THEORY TO BE ABLE TO OPERATE IT LEGALLY. IN THIS STATION, IT IS POSSIBLE TO TRANSMIT AND RECEIVE SIGNALS ALL OVER OUR EARTH. I CAN HANDLE EMERGENCY AND PERSONAL COMMUNICATIONS AND CREATE GOOD WILL AND DIPLOMACY. I DID A LOT TO DO A LOT, SO DON'T GIVE ME ANY STATIC ABOUT HOW MESSY THIS PLACE IS!



**cushcraft**

CORPORATION



**The horrible truth behind  
whipped cream.**



## SOME NETS – FOR WHEN YOU ARE LOOKING FOR SOME COMPANY

Day	Time (Local)	Freq (MHz)	Group
Sunday	08:00	3.750	Southern Net
	09:00	3.700	Bch 10. Franklin.
	09:15	3.755	Bch 65. Papakura.
	16:00	7.125	SPAM Net (AM Mode)
	19:00	146.625	YL Net
	20:00	3.710	Bch 42. Titahi Bay
	21:30	3.595	Duran WIA Net.
Monday	19:30	3.757	Bch 12. Hamilton
	20:00	3.540	CW Practice Net
	<i>updated</i> 20:00	3.605	Br 80. Hibiscus Coast
	<i>updated</i> 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	ZL10A
	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	ZL20A
	08:30	3.730	ZL3RP
	15:00	14.300	Pacific Seafarers
	17:30	3.760	Home Brew
	05:00 Zulu	14.183	ANZA DX Net
	18:00	7.115	VK7OB
	19:30	3.720	ZL1MO
	18:30	3.766	ZL3LE
	08:30/20:00	3.730	ZL3RP
	20:30	3.725	ZL2HN / ZL4RF
	21:00	3.677	Counties Net ZL2MA
	21:00	3.535	New Zealand Net (CW)

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

Also: Calling Frequencies:	Daily	Sunset-Sunrise	3580 USB	NZ FSQCall
Courtesy of Murray ZL1BPU	Daily	Sunrise-Sunset	7105 USB	NZ FSQCall
	Daily	24/7	7104 USB	International FSQCall

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

**Papakura Radio Club Inc.**  
**Branch 65 NZART Club Directory 2017**  
Wellington Park, 1 Great South Road.  
PO BOX 72-397 Papakura 2244  
PHONE 09 296 5244  
**Westpac 03-0399-0019896-00**  
**Club website:** <http://www.qsl.net/zl1vk>  
**Club email:** [zl1vk.club@gmail.com](mailto:zl1vk.club@gmail.com)

**Elected Officers**

<b>President</b>	ZL1NUX	Gavin Denby	021 459 192
<b>Vice President</b>	ZL1BNQ	Richard Gamble	021 729 270
<b>Secretary</b>	ZL1AOX	Ian Ashley	021 198 1810
<b>Treasurer</b>	ZL1MR	David Wilkins	021 185 7903
<b>Committee</b>	ZL1RJS	Rob Stokes	021 307 005
	ZL1IRC	Ian Clifford	021 082 48400
	ZL1ASN	Rolly Adams	021 042 7760
	ZL1DK	David Karrasch	021 560 180
	ZL1RIC	Ricky Hodge	027 533 8155
<b>AREC Section Leader</b>	ZL1BNQ	Richard Gamble	021 729 270
<b>CD Liaison</b>	ZL1AOX	Ian Ashley	021 198 1810
<b>Newsletter Editor</b>	ZL1NUX	Gavin Denby	021 459 192
<b>Hall Custodian</b>	ZL1AOX	Ian Ashley	021 198 1810
<b>Newsletter.</b>	Contact:	<a href="mailto:zl1nux@outlook.com">zl1nux@outlook.com</a>	

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

**Meetings**

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

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

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

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

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

**AGM:** Held in November

**Subscription:** Full membership and newsletter \$25.00

Family Membership and newsletter \$40.00

**Bank Account number: 03-0399-0019896-00**

**Working Bees** As required.

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

**ZL1VK Club Nets**

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

3.755 MHz Sunday at 9.15 am. Controller ZL1BNQ Richard Gamble. (Linked to 146.675 & 438.775)