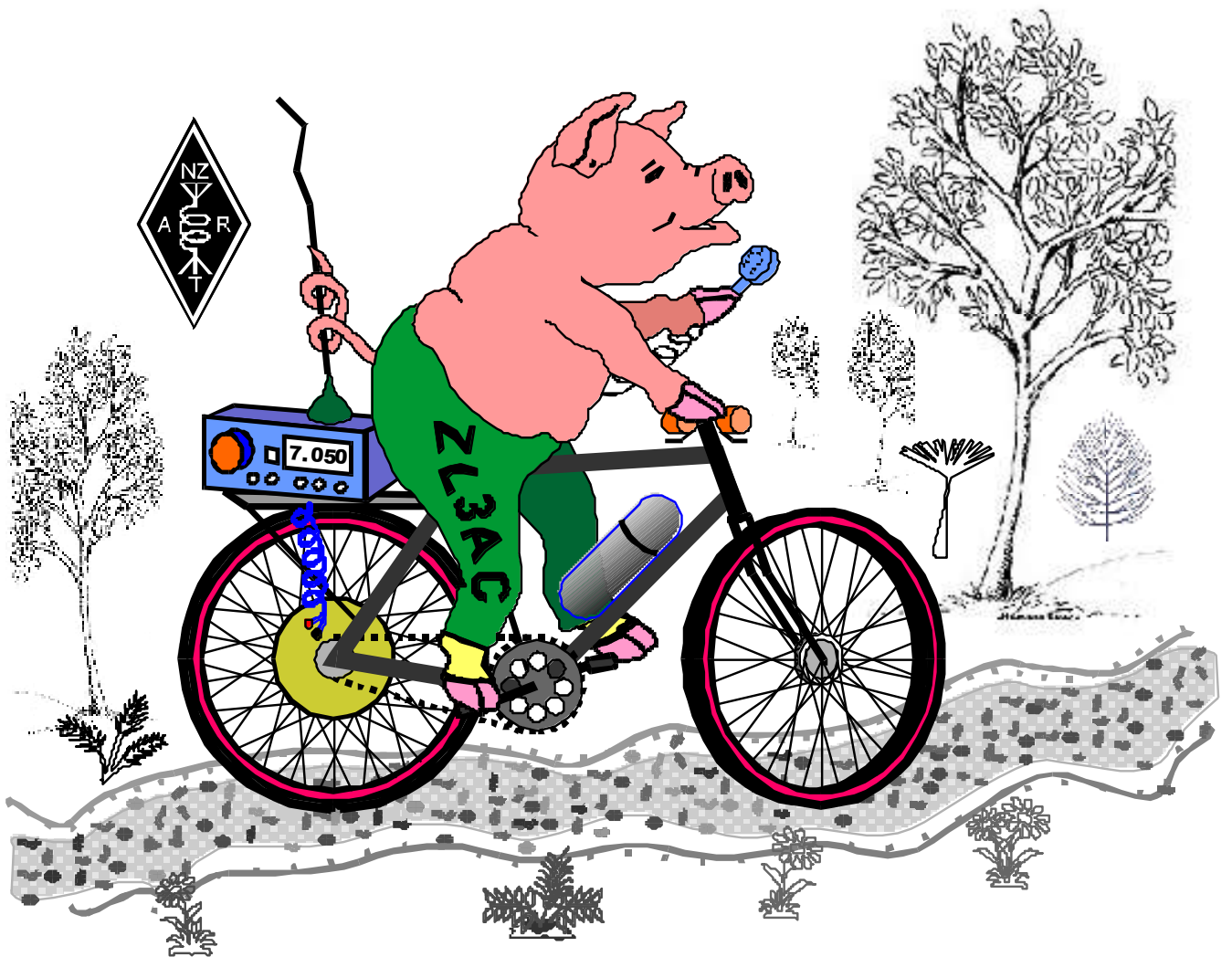# HAMLARKS

## Christchurch Amateur Radio Club



# May 2020

## Branch 05 Club re-occurring events

Cancelled - **MAIN BRANCH MEETING**　　First Wednesday of the month 7.30pm, except January. *All visitors welcome*. At The Clubrooms, 5 Idris Road, Fendalton.
Branch 05 Website　www.chchhamradio.org.nz

Cancelled - **ACTIVITIES and PROJECTS NIGHT** Every Tuesday 7:30pm at 5 Idris Road, Fendalton. *All visitors welcome*.

Cancelled - **DAYTIME MEETING** (Branch05)
Meet third Thursday of month,　1PM at　Branch05 clubrooms.
*All visitors welcome*.

Cancelled - **COMMITTEE MEETING** 1st Monday after branch meeting 7.30pm At 5 Idris Road, Fendalton

Cancelled - **AREC MEETINGS** Normally the 2$^{nd}$ Wednesday of the month 7.30pm. At 5 Idris Road, Fendalton

**DEADLINE FOR HAMLARKS COPY** 11 days before the main branch meeting.

**WEEKLY CLUB VHF NET** Every Sunday 8:00 PM on 145.625MHz repeater if available, otherwise 147.050MHz repeater.

**OFFICIAL NZART BROADCAST** Last Sunday of the month 8:00 PM on 147.050MHz repeater.

**CW PRACTICE**
Boyd ZL3LE every Tuesday at 8pm.　3550 kHz.　Listen in your shack or come along to Branch 05 clubrooms.

*Views expressed in "Hamlarks" are not necessarily those of the Editor or of the Committee of the Christchurch Amateur Radio Club. The Editor reserves the right to edit articles submitted for publication for reasons of clarity or length. No part of Hamlarks may be reproduced without the express consent of the Editor.*

## Speaker for next branch meeting

No presentation planned

## From the President ZL3TAO

Nothing much changes for the club after we move to Covid-19 alert level 3.  We are still unable to hold face to face meetings and the over 70s are advised to stay at home.  The committee held a Zoom meeting last night and we propose to hold our May meeting via Zoom.  I discussed with Kelvin about doing his presentation over Zoom and we concluded it was not practical, so the meeting will just be the usual business followed by a discussion on "lockdown projects". The link to the meeting is on the club calendar on the club website.  I will email it to the Hamlarks list closer to the time so that you can test your system by joining the meeting before the start time – one of the committee spent the whole meeting upside down.  Unfortunately the Tuesday night meetings are also on hold until we get back to level 2.

Our mailing lists have also been updated.  We use the members list to serve notice to members of AGMs etc so please do not opt out. We probably need to drag our constitution into the 21$^{st}$ century and make email the primary method of service to members.

I am disappointed that only just over half our members have paid their subs this year.  Our Treasurer is going to send another email merge after we leave level 4 lockdown, giving you another opportunity to pay your sub.

The committee also discussed eligibility for voting at meetings.  It is quite clear that on club matters, only financial members of the club can vote and of them Associate members cannot vote.  Members are classed as Associate if they are not financial members of NZART and/or they do not hold an Amateur Operators Certificate.  We usually rely on the integrity of members to only vote if they are eligible, and if votes are near unanimous then it doesn't really matter if a few extra have voted. We discussed various ways of confirming eligibility to vote, ranging from requiring members to bring their Break In wrappers to meetings or getting membership lists from NZART.  For monthly general meetings that don't usually have crucial votes it is probably not worth the effort. However for the AGM (or an SGM) where votes could be significant, we may require you to bring you Break In wrapper to prove your eligibility.

## Secretary Rory's Ramblings - ZL3HB

No report (Floated away in a bubble we think.)

## Tuesday Night on the air

To replace our "chat and a cuppa" night, we propose a weekly Jamboree on the air! Every Tuesday - 7.30PM to late! Bring your own biscuits and cuppa, or something stronger.

Of course 705 repeater can be the main stay, or even 725 if you like a bit of FMDX! How about some amplitude modes on 2m? See you on CW!

Suggested frequencies. FM simplex 146.5 MHz, CW 144.15 MHz,  SSB 144.2 MHz,  AM 144.25 MHz,  SSTV 144.175 MHz

## To those who have not paid - Subs reminder, please NOTE!

# Annual Subscription

## Chch Branch 05 Subscription for 2020

**Single Membership**

$25 if paid by 31$^{st}$ March          $35 if paid after 31$^{th}$ Mar

**Family Membership**

$35 if paid by 31$^{st}$ March          $45 if paid after 31$^{st}$ Mar

Junior Membership if still at school - free.    Need parents email address

*Our Club Bank Account number is:*

**Westpac 03 0826 0145 249 00**

If you pay by internet banking, please please use your **_Call Sign_** as the transaction **_reference number_** so that our treasurer can identify you.

If you are posting your Subscription, please send to:

**Christchurch Amateur Radio Club,  P.O.Box 1733, Christchurch.**

## Minutes of the Branch 05 meeting

(There was no April meeting held.)

## Hamads

**For Sale** I have a very low mileage Yaesu FT1802 for sale. I'd like to see $250. My contact details are 021 365550 or email at nzoliver@gmail.com
Oliver  ZL3OOC

**For Sale.** On behalf of CMRS. Kenwood TRC-70 commercial HF SSB transceiver. Complete with instruction manuals. Make an offer. Ph 3832471 or 027 637 6497

**For Sale.** Have your own callsign carved out of wood and mounted. See Picture. $30 plus $7 PP. Contact ZL3PRA Rob Packer rob@robandlyn.org

## Lock Down Homebrew projects report

**Rob ZL3TCM**

Here's an idea I have been using for a while , when my rigs are being used for digital modes I normally remove the mic. I simple dust cap is a cover from a N-Type connector , a normally thrown away item.

Recently I printed off a box on my 3D printer for an Arduino project, printing off the keys make a hard solid key , However its possible to make your own rubber keys . Normal silicone  ( the one that smell like vinegar is best) mix with equal amount of corn flour add food colour ( mix really well colour added allows you to see how well you have mixed) if you wish . Squish into a mold that's been sprayed with silicon spray ( CRC silicon 808 worked for me)  for easy release of the rubber, leave a couple of days to cure and you have nice soft rubber keys that pop with a bit of persuasion out of the mold. Project is the F1CJN rf generator 34.4Mhz to .4Ghz, box was off thingyverse "Mmintbox"

I am also building a 2m Moxon to receive the ISS SSTV pictures. This is right hand circular polarized and made from 4.7mm aluminium rod (3/16th) . The top arms are threaded to 4mm and bolted to plastic conduit and a solder tag added for easy connection to coax. . the arms are connected on the sides by plastic tube as used in aquarium tanks .The phasing harness is 93 ohm coax the stuff that was around a few years back for network cabling . Its a bit hard to find these days but there must be a lot of it in old buildings. Anyhow its all ready for a test just have to wait now for the next ISS sstv to come along.
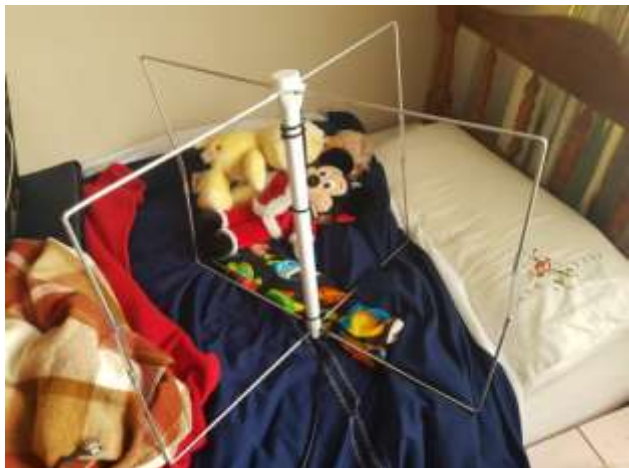
Want to keep a good clock on the PC in your shack? , you can use one of the many on line time clocks to reset your PC but what about when your portable? on the laptop out in the boonies? Im using it for my FT8 and satellite tracking work but useful for any digital modes that require an accurate clock

I use one of these cheap USB GPS units from China  $6.95 US plus 3.94 postage  as of today 13/4/20 . I have used this set up for over a year no

issues just stuck the GPS in a click clack type box Silicone the cable hole and sat it on the outside window ledge . The software is free ! working well on my Windows PC . BktTimesync by IZ2BKT

**Richard Smart  ZL4FZ**

Along with a number of others - some LOTA activity (Lockdown on the Air) as practice for SOTA and also for the Lee Jennings Memorial Activity. Yesterday was a pleasant enough day to take the portable gear outside and setup a temporary antenna as well.

Working on completing a GPS frequency standard. This is a kit from Silicon Chip that uses the 1PPS (Pulse per second) signal from a GPS



receiver to "discipline" a TCXO at 40MHz. It then uses this signal very accurate 40MHz signal as the input to a triple PLL IC to generate up to three reference signals for test equipment. After much messing around, the project is acurately adjusting the TCXO, but the GPS receiver will not finally lock to the GPS for position to allow the final adjustments. It appears from the web commentary there may be some issues with the hardware design that may cause a few problems.

And another 'chapter' of the replacement study guide for the Amateur Operator Certificate of Competency exam has been written (but yet to be reviewed). This along with several others is an ongoing project making very slow but steady progress.

 **Michael Wise ZL3AX (J87AB, G0GPX)**

  I am working on the HamPi project. It is nearly finished, and just ironing out the last few issues. 16 bands possible, 100w, very quiet quality receiver. All the details are at www.hampiradio.com

**Mark Atherton  ZL3JVX**

Building a motor controller for a Turbomolecular pump. A big machine with a big name, which creates a whole lot of nothing.

**Graeme Small ZL3FS**

Here is a  photo of my latest project I've been working on for some time now. It is a pivot for lowering and raising a vertical antenna I'm going to put up. I saw a picture of the pivot in a magazine and thought I'd make one. I've yet to get a piece of 50 diameter aluminium tube with 6mm wall that clamps to the piece of pultruded fibreglass insulating channel.

The 50mm diameter tube will be 3.5 metres long, u-bolted top and bottom of the fibreglass and the antenna attaches to the top of the tube. (The fibreglass is grey in photos) I had to work out all the dimensions as there were no measurements with the picture. I drew everything up full-sized manually and in isometric to make sure everything fitted together. Not being up to speed on computers and cad drawing systems hence T-squares, set squares etc. were dusted off. The alloy saddles I machined up to fit 76 mm diameter and 50mm diameter tube. The bottom hinge, the two bolts are made from are 12mm diameter SAFF stainless steel. SAFF is high tensile stainless and it is tough stuff, hard on turning tools especially when screw cutting the threads. I cut the threads on my lathe at home.

The winch mounting plate is 10mm thick mild steel plate, and everything else is in 8mm plate. The post in the ground is carbon steel hollow bar, 76mm diameter, 17mm wall and 1,5 metres concreted into the ground using high strength concrete. You could tie up the Queen Mary !! up to this. I am a a retired toolmaker, fitter machinist.

Any queries phone 381 5468 or email me at this address.

**Greg, ZL3IX**

I've just finished a homebrew rig and antenna for 23 cm. Those who attended the Homebrew Evening in February saw it in progress. The transverter and Tx buffer are my own design, but the PA is the standard 15W module from Mitsubishi. The antenna is a 45-





element loop yagi from a combination of the ARRL antenna book and other designs on the Net.

I had the first two QSOs yesterday (Friday April 9) with Ross ZL3RJ and Rod ZL3NW.

**Dave ZL3DEM**

Over the last few weeks, I have been experimenting with SSTV on 20 meters. A few weeks ago, I installed and familiarised myself with MMSSTV software.

I found it here: https://hamsoft.ca/pages/mmsstv.php

I wired the headphone output of the HF rig to the microphone input of the PC. I put a capacitor in series with the signal wire to prevent any DC offset from damaging the HF microphone input.

I then wired the headset output of the PC to the microphone input of the radio. I fed the signal via a 10K pot to reduce the signal strength, thinking that the speaker signal may overload the mics low voltage input. My HF set-up is a little limited, I have an inverted V for 40 meters with a couple of traps for 20 meters.

Christchurch Amateur Radio Club.        NZART        Branch 05

I'm currently using 20 meters, as 40 tends to send turn the bedside "touch" lights on and off and is very alarming to my children"!

I set the radio to USB – 14.230MHZ and listened. Unfortunately, with the radio connected to the PC there was no sound to be heard for either transmit or receive. Then, by selecting "listen to this device" I was able to hear what the radio was receiving.

Over the following days I tried sending out a CQ image, but with no luck. This weekend, I was in-front of the radio and I received the image below:

To which I responded, and I was delighted to receive the following reply:



As you can see, the reply I received included my callsign and my image embedded. This was very exciting!

SSTV is yet another very interesting side to Amateur Radio, and surprisingly active. The MMSSTV software takes a little to get used to. Setting up images and messages was a little fiddly.

There is also a lot of protocols to select, however the software does auto-detect good signals and will tell you what protocol is in use, a little monitoring and I noticed "Scottie 1" & "Scottie 2" were popular.

If you have any questions, I'm a regular at the Branch 05 Tuesday nights, and am happy to discuss my findings, or be further educated by a more experienced SSTV fan.

Next I hope to SSTV simplex 2 meters across town, any takers?

**Gilbert  ZL3GIL**

Project 1 A bfo for 10.7MHzt which  uses a 3.58MHz ceramic resonator. Pulling the frequency down to 3.567MHz and then running it through a tripler creates a 10.7MHz signal source.

I then plan to loosely couple the 10.7MHz signal to my Baofeng handheld transceiver thus enabling resolution of the cw from beacons ZL3VHF and ZL3UHF..

Project #2 Arduino driven VFO Here I've tried to create a VFO using an Arduino Nano, an Si5351a breakout board, a 128x64 pixel SPI OLED, and a rotary encoder salvaged from an old computer mouse.

The displays works fine, but the Si5351a draws 400mA on power-up which tells me it didn't survive one of my 30m experiments from 2018 :-( Rotary encoder action is yet to be confirmed.

Project#3 - 10m qrp cw transceiver

I currently have a crystal-locked cw transmitter for 28.060MHz. It pumps out 250mW of RF which is on a par with some Pixie and most Rockmite transceivers I've seen. The receiver is also crystal-locked and receives at the same frequency as the tx.

My next step is to combine the two with a suitable rx mute scheme and possibly use just the one crystal for both circuits. Some form of tx/rx offset will also be useful.

Receiver design by Wayne NB6M. Transmitter design by N7KSB. Soldering and wailing by ZL3GIL.


**Alan  ZL3UYJ**

My recent project - a Powerpole distribution box. I'm trying to standardize on Powerpoles for my 13.8V distribution in the shack so I was in need of a distribution box. It also contains a diode bridge voltage dropper so that my FT-817 runs off a lower voltage than 13.8V.



This has allowed me to set up the FT-817 as a more permanent radio in the shack. With the addition of a half wave wire dipole tie-wrapped to a plastic downpipe  the FT-817 is now monitoring the Cass Peak repeater on 53.850MHz.
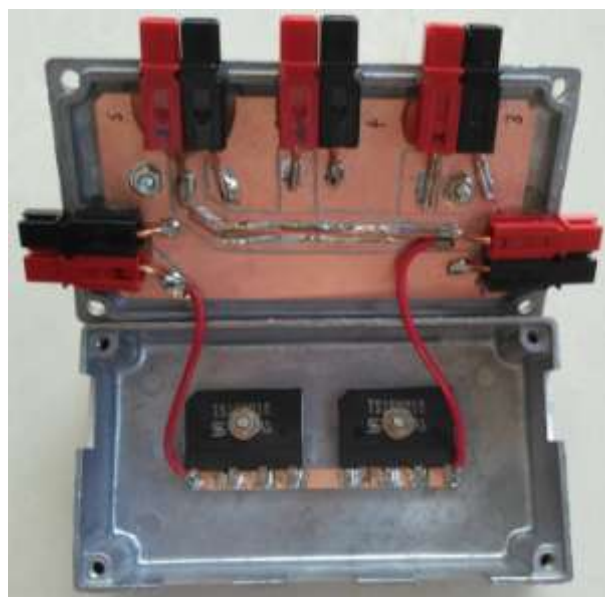
# Christchurch Amateur Radio Club

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