



Committee

President: Gary Landon ZL1WGL

Vice President: Peter Henderson ZL1PJH

Secretary: Tom McDonald ZL1TO Ph. 09 238 8580

with: Mike Jane ZL1UOM, Ted Doell ZL1BQA, Durlene Griffin ZL1ULK, and Mike Lee ZL1MFL.

Examiners: Ian ZL1PZ, Tom ZL1TO.

Web page: www.qsl.net/zl1sa/

MEETINGS: The club meets on the third Tuesday each month, in the clubrooms, Stadium Drive Pukekohe, 7.30 pm. Visitors welcome.

The committee meets on the first Tuesday of each month (excepting January) at 7.30 pm in the clubrooms.

Subscriptions \$20.00, family \$30.00.

Nets every Sunday at 9.00 am on 3.700 MHz (controller ZL1UOM) and 9.30 am on the 146.900 MHz repeater (controller ZL1PZ). Other 2 metre frequencies are 145.775 MHz, 146.625 MHz, and 146.900 simplex if repeaters off air.

Newsletter: Editor Tom ZL1TO tom.mcdonald@xtra.co.nz
A copy is sent to members and clubs in the Auckland area. Sent free of obligation by e-mail to anyone interested.

Adjusting to Covid

Auckland has been in Level 4 lockdown since 17 August. Our August general meeting was cancelled at short notice and became a Zoom teleconference courtesy of the internet.

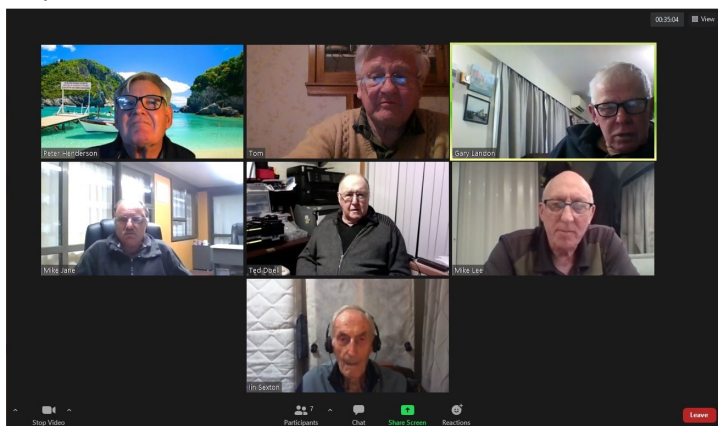
We will drop to level 3 on 22 September – but that is really Level 4 with takeaways.

A daily net on the 690 repeater has been well patronised by club members. This has worked well as a welfare net. All who are feeling just a little alone in their bubble are more than welcome.

The 6625 repeater at Klondyke is off air and will stay that way until a repair crew can get access.

On the North Shore an AREC exercise has been organized in such a way that participants can work from within their bubbles.

Below: Participants at the committee meeting of 7 September



Who needs a spell checker?

Aoccdnrig to rscheearch at Cmabrigde Uinervtisy, it deosn't mttar in waht oredr the ltteers in a wrod are, the olny iprmoetnt tihng is taht the frist and lsat ltteer be at the rghit pclae. The rset can be a toatl mses and you can sitll raed it wouthit a porbelm. Tihs is bcuseae the huamn mnid deos not raed ervey lteter by istlef, but the wrod as a wlohe.

Thanks Eric ZL1ERI

Club Notice Board

General Meeting, Tuesday 21 September

Auckland will still be in Covid Level 4 at the date of our scheduled general meeting, so our meeting will be on Bombay 690 at 1930 hours .

By 2000 hours we should be ready to go over to a Zoom gathering. Members have been posted a login URL by Peter ZL1PJH ahead of the Zoom conference.

We will be in Level 3 for a fortnight from 22 September. Face to face meetings can not occur until we get to Level 2.

AREC SARTrack exercise, Saturday 25 September

Several members have volunteered to join an exercise that has been organized by Andy Brill of North Shore Radio Club. The exercise is designed for participation by field stations in their lockdown QTH.

Field stations will be asked trivia questions, and may use the radio, internet, phone a friend, books or any other legitimate method to find the answers. Answers will be returned via repeaters, and data compiled on search and rescue tracking software.

A busy day at lockdown

Husband: "I changed a light bulb today."

Wife: "That's it? I did the laundry, vacuumed, washed windows, cooked three meals, and the list goes on and on ... And you changed a single light bulb?"

Husband: "Yep, that's what I did today. Watch this; I even filmed myself doing it."

Click here to watch:

https://www.youtube.com/embed/f1BgZlZRfT8?feature=player_embedded

Thanks Frank ZL1AMQ

To be continued.....



Minutes of Franklin Amateur Radio Club (Inc) General Meeting to have been held at the clubhouse 19 Stadium Drive, Pukekohe, 17 August 2021

The face to face meeting was cancelled at the last minute due to an announcement that New Zealand would go in to a Covid Level 4 lockdown at 2359 hrs today.

There was a gathering on 690, followed by an informal Zoom conference.

Agenda items would have included:

Correspondence:

Inward Newsletters from Branches 03,13/23, 29, 65, 66, 80, 86, 89 as published in QUA.

Outward With David ZL2DW concerning a potential amateur perhaps heading for Franklin area at the end of August.

With Andy ZL1COP re Teams meeting for AREC 5 August. From Andy ZL1COP advising Regional meeting at Branch 66 Thursday 19 August.

Inland Revenue – reminding to do the annual return.

Finance:

Income: as reported in QUA.

Expenditure: Contact Energy Power to 18 July \$50.62

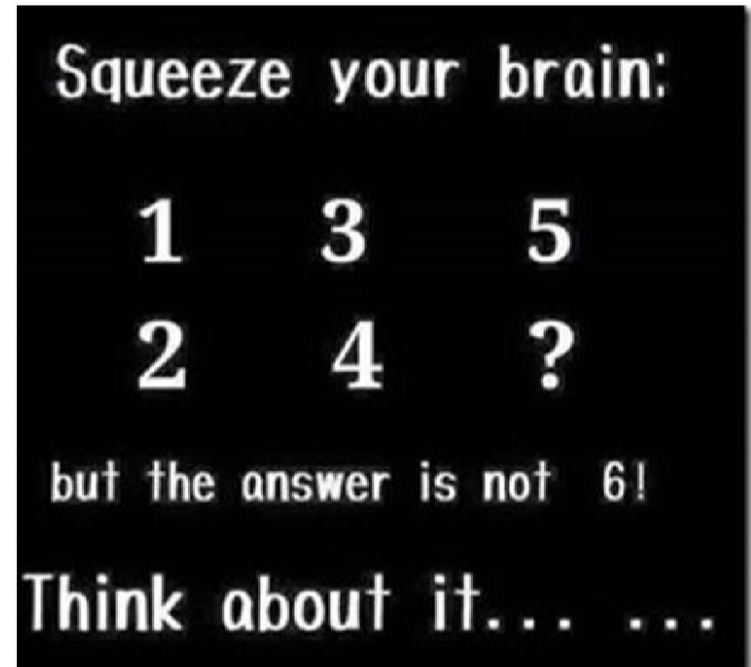
Reports:

Midwinter dinner at Waiuku Cosmopolitan Club “Shunters Club”

A busy day at lockdown .. continued

Wife: “So what, here’s one of me, folding the laundry.”

<https://www.youtube.com/watch?v=uQHhYRuaEtM>



Minutes of Franklin Amateur Radio Club (Inc) Committee Meeting held by Zoom, 7 September 2021

President Gary ZL1WGL opened the meeting at 1930 hours.

Check ins on 690 repeater:

ZL1WGL, ZL1TO, ZL1PJH, ZL1UOM, ZL1MFL

Attendance on Zoom: ZL1WGL, ZL1TO, ZL1PJH, ZL1UOM, ZL1BQA, ZL1MFL, ZL1PZ

Apology: Durlene ZL1ULK, accepted. ZL1WGL / ZL1PJH

Minutes of the August meeting. The minutes were approved as true and correct. ZL1BQA / ZL1TO

Correspondence:

Inward FMG – value for insurance when renewed. Replacement \$72032.57 depreciated \$51773.40

We agree to the replacement value and depreciated value in the FMG letter. ZL1WGL / ZL1BQA

Chris Stabler advising that Positive Ageing Expo is cancelled due to Covid lockdown.

Newsletters from Branches 13/25, 29, 65, 80, 86, 89

Outward The letter to Auckland Council has yet to be actioned.

The correspondence report received. ZL1WGL / ZL1BQA

Finance:

Income: Sale of Eddystone \$183.00 Components \$25.00

Expenditure: Contact Energy \$50.62 (paid 3 August)

The finance report was received .
Ratified Contact Energy \$53.83

ZL1TO / ZL1PJH
ZL1TO / ZL1WGL

Reports:

Vandalism. Ideas were canvassed on how we might discourage vandalism, which is predominantly in the ally between our wall and the Carls Junior fence. Ted ZL1BQA would like to see the ally blocked off as a priority. The fence palings should be screwed rather than nailed. Ted suggested a manhole type gate with a padlock. Tom ZL1TO warned that youngsters might treat the blocked ally as a shelter by laying a sheet of plywood on top. Ted said the addition would use a couple of big posts. We may need to be aware of a buried water pipe to the former Opera Club building. Tom thought that a solution could be to plant gorse and nettles near the entrance to the ally.

AREC. Peter ZL1PJH reported on the online survey currently on the web. The group leader is to follow up by requesting high visibility gear.

Next meeting. We are unlikely to be down to COVID level 2 by the next general meeting. We will have a Zoom meeting. This could be led by an informal gathering on the 690 repeater in consideration of those without Zoom capability. We could have a member put up a presentation on Zoom. Mike ZL1UOM felt his demonstration on bending light would be better at a face to face meeting.

Gary ZL1WGL commented on the homebrew rig of Ian ZL1PZ which is in storage at the clubhouse. Gary felt that a note on its history and construction, laminated, might go with it.

The meeting closed at 2040 hrs

29. JOTA at Camp Maynard 16-17 October. 4/4 passed exam on 1 August. Treasurer standing down. Dennis ZL1TAY on Gun control Radar October 4. Visit to Auckland Transport Operations Centre. Installing amateur radio in an RAV4 car. Photo from 1935 founding president Derek Thomson ZL1KB.

65. Meetings will resume at level 2 or better. Parker solar probe to make 10 million km close approach to sun 15 August. Lighthouse weekend activations cancelled due to COVID. Backyards on the air. Solar panels. An LED with improved efficiency. Alkaline metal chloride battery with six time energy density of lithium ion battery. Bacteria to be used in recycling old batteries.

66. Cover photo - a COVID antenna range. Ann Walker, Silent key. Changes to constitution. 921 MHz Digital TV progress. Spectrum 50 years ago. History and current state of 3.4 GHz use.

80. Zoom meeting 8 September. 40th anniversary dinner postponed. KiwiSat web site update – required to deorbit within 25 years – possibly using attitude Determination and Control to reduce height.

86. Photos, articles and obituaries to Ann ZL1BFB (silent key).

90. Ham cram 9/10 success, with photos. Developments in AREC.

Climate Cycles

As this goes to press, the world is going through the spring equinox. On the day of equinox everyone on earth will get 12 hours of daylight, and 12 of night. As we head toward summer, in New Zealand our daylight time becomes longer and the tilt of earth's spinning axis gives us a view of the sun higher in the sky each midday. Crops like it, and we head for our summer climate.

For the meantime lets forget about the composition of earth's atmosphere and any climate trend due to the amount of greenhouse gases. Sure, we may be heading for climate change due to changes in the amounts of our greenhouse gases.

Amateur radio operators are familiar with the eleven year cycle of sunspots, and the cycle of radio propagation over that same period. Not only do the number of sunspots go through a cycle, but the radiation that Earth receives from the sun varies through this cycle. The effect shows in tree ring patterns and in layers of sediment. The Maunder minimum, which occurred between 1645 and 1715, saw solar energy drop by 0.04% to 0.08% below the modern average.

The next cycle relates to the instability of earth's orbit about the sun. Presently the orbit is nearly circular. But the eccentricity of the elliptical orbit will increase to a maximum in a cycle of 100000 years. And then the ellipse

Amateurs in space

Well, not radio amateurs, but amateur astronauts!

The crew of Dragon were Commander Jared Isaacman, pilot Sian Proctor, medical officer Hayley Arceneaux and mission specialist Chris Sembroski. They took part in the Inspiration4 mission as four fare-paying passengers on an autopiloted capsule launched on a FalconX rocket. They spent three days in orbit; around 100 km higher than the International Space Station.



Splash down, on 20 September, after reentry, was braked by a canopy of four parachutes. The capsule landed safely in the Atlantic Ocean, off the coast of Florida, not far from where the journey had started.

will trend toward a circle again. Even these days there is a 6.8% annual variation on the solar insolation (amount of sun's radiant energy) due to the varying distance of earth from the sun during the course of a year.

The next cycle is due to the earth's axis having a wobble, something like the wobble of a spinning top. Over a period of 26000 years the wobble shows up when we look at the north celestial pole. During our lifetime the star Polaris is close to the north celestial pole. But in 13000 years the celestial pole will be near the star Vega. Again there will be climate implications. The wobble is technically referred to as axial precession.

And now, with an even longer period is a cycle referred to as precession of orbit, with the direction of the major axis of our elliptical path around the sun going through a 41000 year cycle.

On yet a longer time scale it is likely that the solar system regularly passes through the axis of our galaxy where there is a greater population of debris than average. We might expect more climate changing collision comets at 35 or 45 million year intervals. One is thought to be responsible for the 20°C cooling which caused extinction of the dinosaurs.

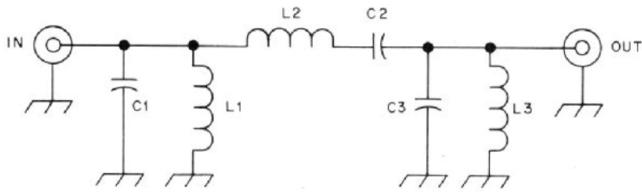
Further reading:

<https://climate.nasa.gov/news/2948/milankovitch-orbital-cycles-and-their-role-in-earths-climate/>

Bandpass Filter

Ted Doell ZL1BQA

I was in the need for some type of filter to put on the output of a 7MHz signal (square wave) from a Raspberry Pi before it went to a low power amplifier (0.2W). I decided on a shunt input filter.



Above is the circuit I used.

I needed 3 inductances 2 at 550nH and 1 at 5.5uH. So how do I get these values. Most articles I read on these filters said to use grade 6 iron powder toroids. These are easily obtainable from a reliable source in Auckland. For the 550nH I used T30-6 toroids with an OD of 8mm the final number of turns required after testing was 10. For the 5.5uH coils I used a T50-6 toroid with an OD of 13mm this worked out to require 34 turns.

How did I test these to get the inductance I needed? I used a RigExpert which was able to test and give a very good readout and I could test them at any frequency from 100Hz to 50MHz.



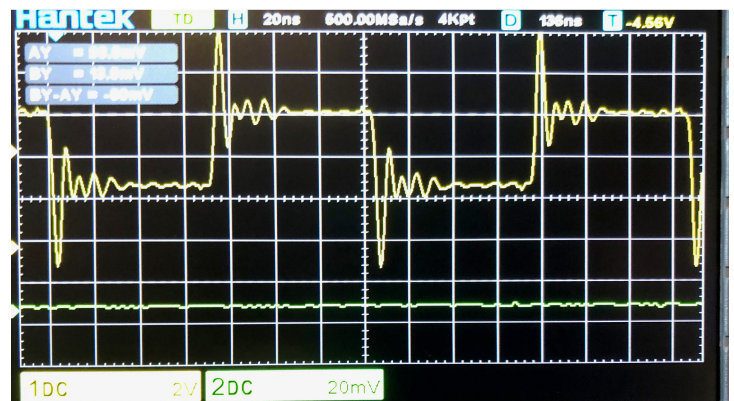
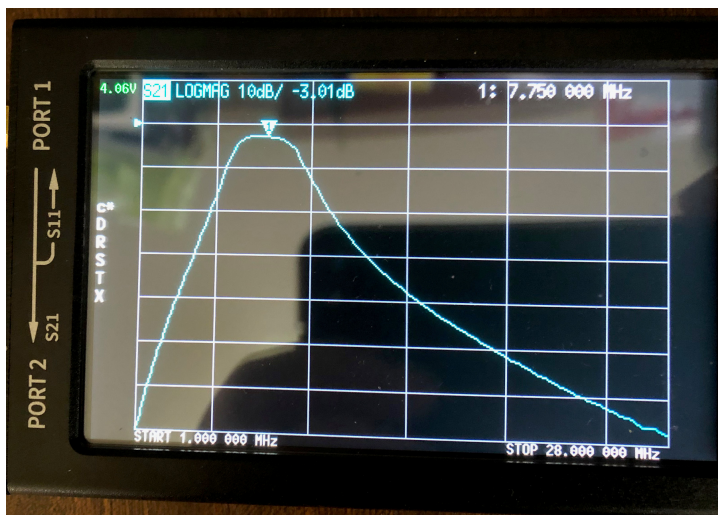
This is the test setup the on the RigExpert it shows the inductance of 6.0uH. This toroid was a T30-6 and it proved to be too small for this inductance as it proved to be very frequency dependant. I then used a T50-6 and this was OK. I could probably have got better performance and results if I used a larger toroid, but where I am going to use this filter I need it to be as small as I can get it and still work correctly.

To test the circuit and values I used the trusty bread board style.



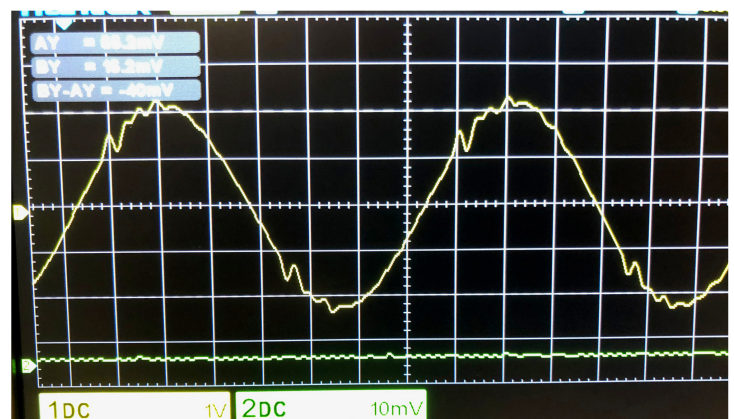
A sweep of the filter.

-34.5 dB at 14MHz and -67.6dB at 28MHz



Above: 7Mhz square wave output from Raspberry Pi.

Below: 7Mhz output from Band pass filter showing a reasonable clean up of the Raspberry Pi signal.



Morse Diary: Peter learns Morse code

Peter Henderson (ZL1PJH)

Friday 13 August

I should have expected what has happened to me today if I had paid attention to the date. Over the last week I sensed I could speed up my Morse reception if I practiced more. Today, I started doing practice sessions every three hours. The result was exhaustion. At first, I felt elated as my accuracy scores soared. On each of the seven sessions I did yesterday, I scored 96 per cent or better. Today, I was unable to equal those percentages. Today has been gruelling, long and less accurate than yesterday. My best score has been 90 per cent. There were characters I could not recognise at all – even characters I had no difficulty identifying yesterday. Perhaps there is an upper limit to the number of sessions. Perhaps not. I will keep trying to do a session every 3 hours or so and see where that takes me.



Monday 16 August

I have had my first CW QSO. I switched my Kenwood 830 over to CW-Wide mode and tuned it to 3545 kHz. At precisely 8.30 pm, I transmitted a CQ and added that I am

I do not want to make too many very public mistakes so I thank him again and sign off. As I write up the QSO in my log, I ponder how many more contacts will be as smooth as this one as I schedule myself to do a CQ on 3545 Monday to Friday at 8.30 each night.

Tuesday 23 August

After a shaky start, I have more experience with Morse transmission. Tom (ZL1TO) and Jeff (ZL1TOU), both CW learners, have agreed to join my slow Morse transmission sessions. I have a script that I copied from a Google search that gives a rough guide on Morse QSOs. Hams exchange calls first, then give first names and locations. If the QSO continues, they swap signal reports, Rig information and maybe antenna configuration. Tom, Jeff and I have followed no script so far. We did manage to overcome the zero-beat problem and can hear each other now after a shaky start playing with RIT on our sets, but our exchanges are limited to calls and names. On Saturday, Tom managed to send me his name and call sign and Jeff communicated his thanks for my call to him. Tonight I sent out a 'topic' of 'rig'. Jeff sent back 'Icom' to me and I tried to send 'Kenwood' back to him. So far, I don't know if he was able to understand my sending 'Kenwood' but he was able to deduce there was a 'topic' and give a relevant answer to me. So I think we should be pleased with our progress.

To send real Morse creates a powerful drive to get faster on reception skills. I find I want to do longer practice sessions in the daylight hours. Each practice session now consists of 600 random characters sent in groups of 5. I complete at least three per day. I set the sending software (Teach8) at 20

new to Morse and would like my first QSO at a slow speed please. A reply came back almost immediately at just my speed. His call is ZL1DGX. I am impressed at how well he zero-beats. His tone matches mine exactly. He told me I have an RST of 599 and his name is Don and his location is Lower Hutt. I sent back that his RST is 599 but in my excitement, I forgot to tell him my name or location. Don was unfazed. "That's GUD," he replied, "OK". I send a name and location and add that he is my first ever CW contact. "Now QRT" (finishing the call), he sends back. "TNX for QSO and 73", I answer him. My first contact has been brief but there is a lot I do not know yet about CW and



wpm text speed with a Farnsworth spacing of 11 wpm. At the end of each practice session, I compare the characters I have written with the actual transmission. In the last week, I achieved 93% or better for all transmissions. I did consider a move on to 12 wpm but have decided to stay at 11 for now.



Solution of puzzle

