



Ragchew

“The Voice of Branch 68”

December 2017

The North Canterbury Amateur Radio Club Inc.
PO Box 14, Woodend 7641



www.ncarcinc.weebly.com



QTH

Meetings are held at the Woodend Youth Centre, unless otherwise advised.

Season Greetings

CLUB CALENDAR

Meetings start at 1930hrs, unless otherwise stated.

Host for December - ZL3QR

Branch 68 Woodend

December 14 General Meeting **Duncan ZL3JT on QSL's and workings of
Cake Cake Cake “Logbook of the World”**
16 **Xmas BBQ Luncheon (1200 hrs) at the Club Rooms**

Branch 01 Ashburton

December 11 **Xmas Function at (1800 hrs)**

Branch 05 Christchurch

December 6 **Annual General Meeting and Xmas Goodies**

News Flash

Christmas cake baked ready for consumption on December 14th at the general meeting **breakup in Woodend**, make a note in your calendar. See you there.

Nets and Frequencies

Canterbury 2M SSB Net 144.200MHz every Tuesday from 2000hrs (vertical polarisation)

Canterbury 6M Net 3850 6M Repeater Thursdays from 2000hrs (vertical polarisation)

Canterbury Area Net 5625 Repeater, 2000hrs on Sundays

National Broadcast last Sunday of the month at 2000hrs on 3.900MHz, National System, 6975 and 705 Repeaters

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Tel: 03 311 8020

Presidents Report Dec 2017

Friday, 1 December 2017, 08:27

Hot and dry is the feeling I get as I write this report. Christmas is now upon us and we have our annual Christmas BBQ on the 16th Dec and a very exciting meeting coming up in December, Duncan ZL3JT to explain QSL's and the workings of "Logbook of the World". This one is not to be missed. I spent last weekend at Godley Head as part of the ZL3X Quake Contesters team taking part in the CQWW CW contest. My own CW skills aren't at the contest level but my catering was appreciated! If any member is interested in this aspect of amateur radio please come and have a chat to me, as we are always on the lookout for keen participants to join our team.

The Jock White field days are coming up at the end of February (24/25th) and once again we will be looking to put a good team together for this event. Come and see me at the December meeting if you have any questions.

73, Don MacDonald ZL3DMC

:

AREC Up coming Equestrian event at Cannington South Canterbury Feb 10/11th 2018. I will be calling for operators for this event shortly. A great weekend in the south Canterbury foothills. Please see me for any questions you may have.

Don ZL3DMC/ZK9EG

AREC / Fire Reports

Forest Rural Fire: (AREC supplied Comms / Logistics to Forestry Fire Teams).

Sun. 5/11/17. Assistance call to a fire in a pit within Fire Boundary of Eyrewell Forest. Immediately following this a re-direction to a grass and stump fire near Fire Boundary of Mt. Thomas Forest.

Thurs. 16/11/17. Assistance call to a rubbish fire which had caught into long grass within Fire Boundary of Eyrewell Forest. First response (Cust) reported minor fire under control and stood down Forestry Unit while en route.

Geoff ZL3QR
Dep. S/L.



Repeater Reports

675 (Mt. Grey).

The strong interference which appeared on September 14th and continued almost daily for seven weeks, disappeared just as suddenly as it had arrived, much to our relief. We have been unable to get information as to its cause (or cure) so far. Unfortunately, the hiatus only lasted 17 days and we now have the problem back as bad as ever.



6975 (Mt. Noble).



A very well attended General Meeting on November 9th heard the Committee's recommendation that the Repeater be decommissioned, and, following a vigorous debate, returned a resounding affirmation that the repeater was to stay. In part this came about because we now have a few volunteers willing to "climb the hill". In recent times, the difficulty of finding such volunteers has been the reason for the lack of maintenance of the Repeater. Moves are now underway to source suitable batteries and a reconnaissance to see what other maintenance is required will be made as soon as possible.

Geoff ZL3QR.

Digital Modes Changing Complexion of Bands and Perhaps of Ham Radio

The wave of software-based digital modes over the past several years has altered the atmosphere of the HF bands. Some suggest the popularity of modes that make it possible to contact stations neither operator can even hear has resulted in fewer CW and SSB signals on bands like 6 meters and 160 meters. Traditional modes require far more interaction and effort on the part of the operator; the newer digital modes, not so much. The recent advent of the still-beta "quick" FT8 mode, developed by Steve Franke, K9AN, and Joe Taylor, K1JT -- the "F" and the "T" in the mode's moniker -- has brought this to a head. Some now wonder if FT8 marks the end of an era and the start of a new, more minimalist age.

Joe Taylor, K1JT. "We've been as surprised as anyone about the rapid uptake of FT8 for making QSOs on the HF bands," Taylor told ARRL this week. Rather than viewing FT8 as a total game-changer, he sees a dividing line between such digital modes and more traditional modes.



Joe Taylor, K1JT

"SSB and CW are general-purpose modes," Taylor asserted. "They are good for ragchewing, DXing, contesting, emergency communications, or whatever. FT8 and the other modes in WSJT-X are special-purpose modes. They are designed for making reliable, error-free contacts using very weak signals -- in particular, signals that may be too weak for the more traditional modes to be usable, or even too weak to hear." Taylor notes that the information exchanged in most FT8, JT65, and other digital-mode contacts "is little more than the bare minimum for what's considered to be a valid contact." In addition to call signs and signal reports, stations may exchange grid squares and acknowledgments. Radio amateurs recently commented in response to a Top Band Reflector post, in which Steve Ireland, VK6VZ, averred that because of FT8, "160-meter DXing has changed, perhaps forever" in recent weeks. Ireland said he downloaded FT8 but just couldn't bring himself to use it on the air. "My heart isn't in it," he wrote. "My computer will be talking to someone else's computer, and there will be no sense of either a particular person's way of sending CW or the tone of their voice. The human in radio has somehow been lost." In his [blog](#), Steve McDonald, VE7SL, compiled not only Ireland's posts, but some responses to it, although not identified by name or call sign. One commenter suggested that the game-changing aspect of FT8 is that those who typically operate CW or SSB will gravitate to FT8. "The amount of activity on the FT8 frequency of any band is phenomenal," the commenter observed. A few complained that no skill is involved in making contacts using computer-based digital modes.

Another suggested that FT8 is already falling victim to its own success, with too many stations crowding around the designated FT8 frequencies. Others were more philosophical, with remarks along the lines of this one: "It is allowing people who have smaller stations the opportunity to get on and use their radios and a computer to make contacts they never would have been able to make. This is great for ham radio!"

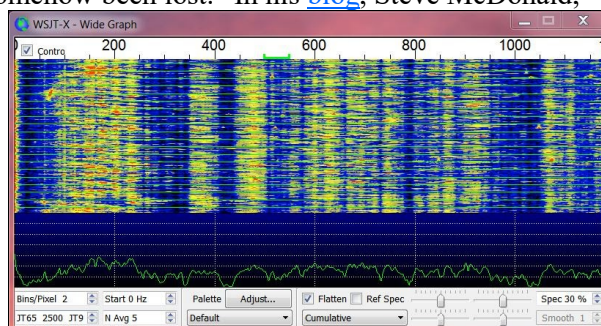
Taylor would agree. As he sees it, FT8 won't replace modes such as CW or SSB. "Nevertheless, it's clear that -- at least in the short term -- many hams enjoy making rapid-fire minimal QSOs with other hams, all over the world, using modest ham equipment," he said. "For this purpose, FT8 shines."

Publication from ZL2KO Long Wire December 2017.

Wanted

To restore a power supply of a Kenwood R-599 RX from the 70's I am looking for an original NEC TO-39 Silicon PNP Transistor 2SA606. If you happen to have one of these please to part with or know of a good substitute please let me know.

Ron zl3rck@gmail.com



A Few Thoughts on Magnetic Loop Antennas

I am interested in QRP portable operation on mainly 40 metres and have been investigating different types of portable antennas. Usually when out and about I use an inverted V dipole supported by a 7 metre Squid pole. Inverted V antennas are good performers, but they take me around 15 to 20 minutes to erect so I was looking for an alternative antenna design that has a similar performance to a dipole and that was quicker to erect. At first glance Magnetic Loop Antennas seemed to fit the bill. The Mag Loop concept is that the antenna has a primary loop, which ideally should be:

- round to encompass the greatest area and which needs to be
- made of a highly conductive material, ideally copper or aluminium, be
- as thick in section as possible and be
- formed into a loop in excess of one metre in diameter.

The primary loop is taken to resonance by a substantial, widely spaced variable capacitor. Within the primary loop is a secondary loop which is recommended to be one fifth of the diameter of the primary loop. The two loops form a 5:1 transformer and the signals at the resonant frequency in the primary loop are induced into the secondary loop which is in turn connected by coaxial cable to the transceiver. In use the receiver is tuned to desired frequency and the variable capacitor is adjusted to achieve 'peak noise' in the receiver. That is the theory, however, the noise peak is an extremely fine adjustment so that variable capacitor needs some form of reduction drive. I used a 4:1 planetary drive.

As the drawing shows (next page) my design is made up of a cross of 27mm O.D. PVC plastic tube with a 'T' piece in the middle. To get some rigidity I used a section of bamboo broom handle for the bottom, section of the made up of RG-213 but at a pinch RG-8 will probably do. The secondary loop is made up of PVC covered multi-strand Copper wire and is 320mm in diameter. It sits, touching the primary loop, in a fork at the top of the antenna. The secondary loop is connected to the RG-58U coaxial feed line. How does it work? It is very touchy but it is possible, by a gentle manipulation of the variable capacitor to take it to frequency and get an SWR of 1:1.5. This means that you don't need to put it through an antenna matcher. It is sensitive to capacity variations these include hand capacities and 'body proximity capacities' (if you get too close it will go off frequency). For that reason I built mine with the variable capacitor at the bottom of the loop although most designs show it at the top. I can erect and tune this antenna in less than five minutes.

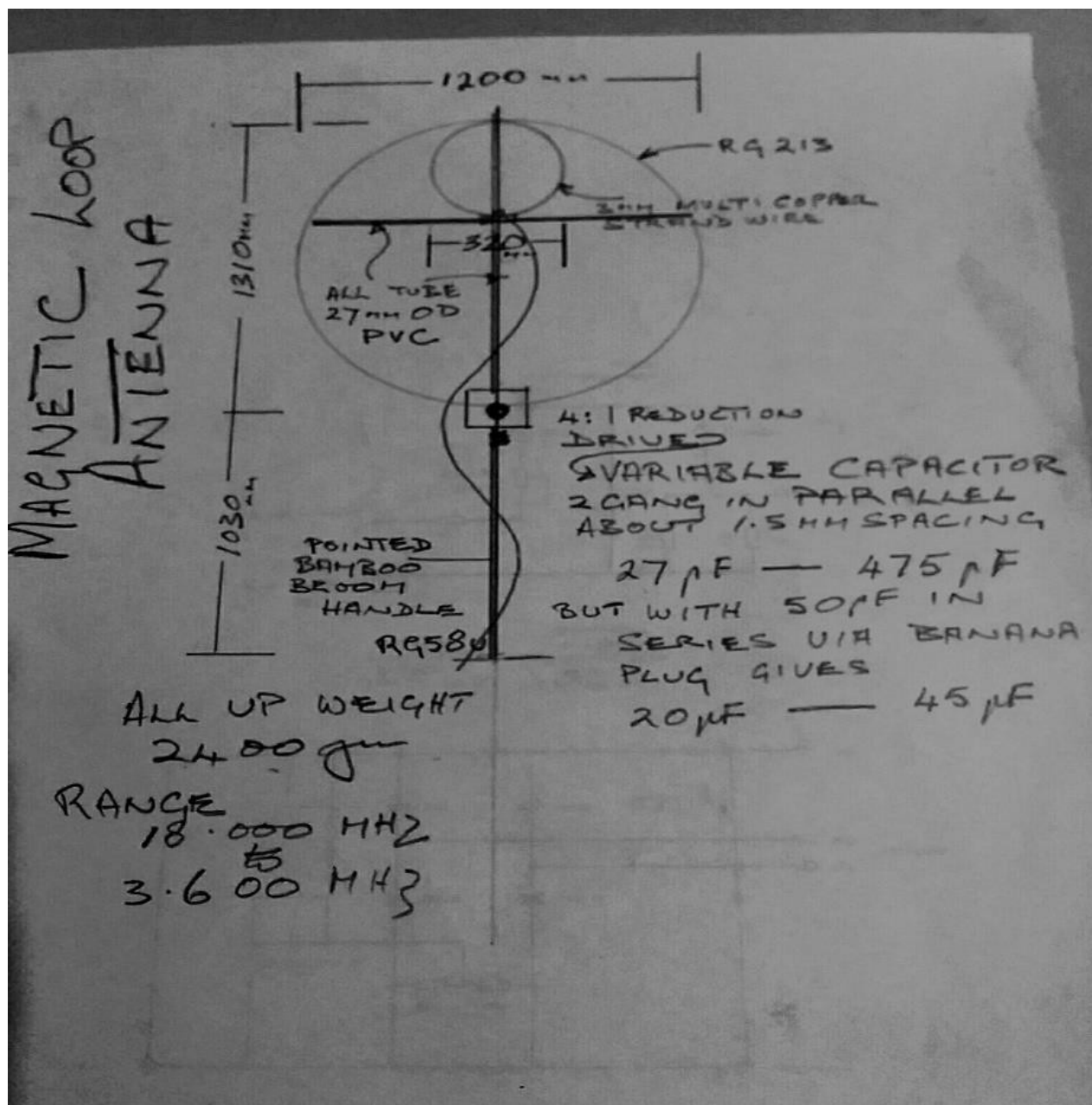
The Mag Loop is highly directional and radiates off the edge of the loop (like water off a bicycle wheel). It is very susceptible to changes in the shape of the primary loop. Raising the capacitor up the shaft by 200mm increased the SWR from 1:1.5 to 1:2.5. Also changing the shape of the secondary loop will change the SWR too.

The frequency band is also very narrow, probably only a few Khz wide. Changing frequency means re-tuning the loop.

Tuning the loop requires something better than listening for the noise peak. I used a variety of higher power SWR meters but they got a bit wishy-washy at QRP x 40mts. I had surprising success in tuning for peak noise and then taking it to full 5Watts of power using an old CB Field Strength meter. I checked the SWR with a dedicated QRP SWR meter after doing it this way and it was fine.

My variable capacitor, which has vane spacing of around 1.5mm, has two gangs in parallel and a range from 27pF to 475 pF. This allowed me to tune from 20Mts to just into the 80Mt band. I extended the range up higher by having a, high voltage, 50pF fixed capacitor that I can bring into a series circuit with a wander plug. When this is in circuit the range of the variable capacitor is changed to 20 – 45pF. This allows me to tune the 18 MHz band (but I can't think why I would ever want to!).

The biggest draw back of the Magnetic Loops is that their efficiency is proportional to their tuned frequency. In simple terms this means that as you go higher in frequency the efficiency improves. The efficiency is also proportional to the conductivity of the primary loop, the thickness of the primary loop conductor and the diameter of the primary loop and according to 66Pacific at their excellent website www.66pacific.com/calculators/small-transmitting-loop-antenna-calculator.aspx the efficiency of my antenna at 40mt is 10%. Which isn't too good if you're working 5Watts into it!



According to the same calculator if I doubled the diameter of the primary loop to 7.2mts and tripled the conductor thickness to 30 mm the efficiency would soar to 73%.

As it stands the Mag Loop is acceptable for 18MHz with a 76% efficiency. (But see my comment above!)

As a wise old Ham once said 'Its easy to build a good dipole but it is not easy to build anything as good as a dipole!'

The Magnetic Loop has now been relegated to the back of the garage and has been cannibalised for its usable parts. The quest for an effective portable QRP antenna continues.

Tony VK3CAB #15204

Publication from FDU Newsletter November 2017

*Man Up &
Get Checked!*



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SPECIAL INTEREST CONTACTS

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CALENDAR for 2017**General Meeting - Second Thursday at 1930 (7.30pm)**

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | | | | | | | | 14 |

Committee Meeting - Fourth Thursday at 1930 (7.30pm)

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
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Club Monograms (cloth) \$9.00 - Club Badges (metal) \$6.50

Enquiries to **Denise ZL3HI**, phone (03) 313 4907****SUBS DUE BY 30 APRIL******Annual Subscriptions**
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