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Branch 63 Clubrooms
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Upper Hutt 5018
Newsletter of The New Zealand Association of Radio Transmitters, Upper Hutt Branch 63, Inc.

ZL2VH Newsletter - December 2013

President's Report

Hi everyone....
Another year has passed us all by and with the outstanding weather we had last year, one can only hope that this summer will be the same or just as good -- fingers crossed.

So it's time to consider which events are coming up to get involved with, to take you away from those household tasks that your partner has lined up for you over the summer.

As far as Working Bees at Mt Clime are concerned watch your inboxes for the information as these come about and help out where you can. (The first one will be on Sunday 1 December 2013, and others will follow over the summer – this might have already passed by, by the time this gets newsletter gets out!). The first event for next year is the Wallaceville Hill Climb on Sunday 26 January 2014 – Gavin ZL2ACT is the lead on this and a number have volunteered already. This is a great event, a good fundraiser for the club, a chance to test yourself and your equipment, and a good day out.

In February there is of course the Jock White Field Day, no doubt will be at Kaitoke Regional Park, so again watch you inboxes to be involved in that. I'm looking for a member from the club to take over the role of organising this as Peter ZL2HM used to do it, and he has left the district.

The ten-year anniversary of the Climie 730 IRLP Node (Node 6931) installation occurs this month, so get on the node and use it, and announce the fact.
Don't forget that the NZART Conference next year will be in Blenheim – please support Branch 22 (31 May - 2 June 2014).

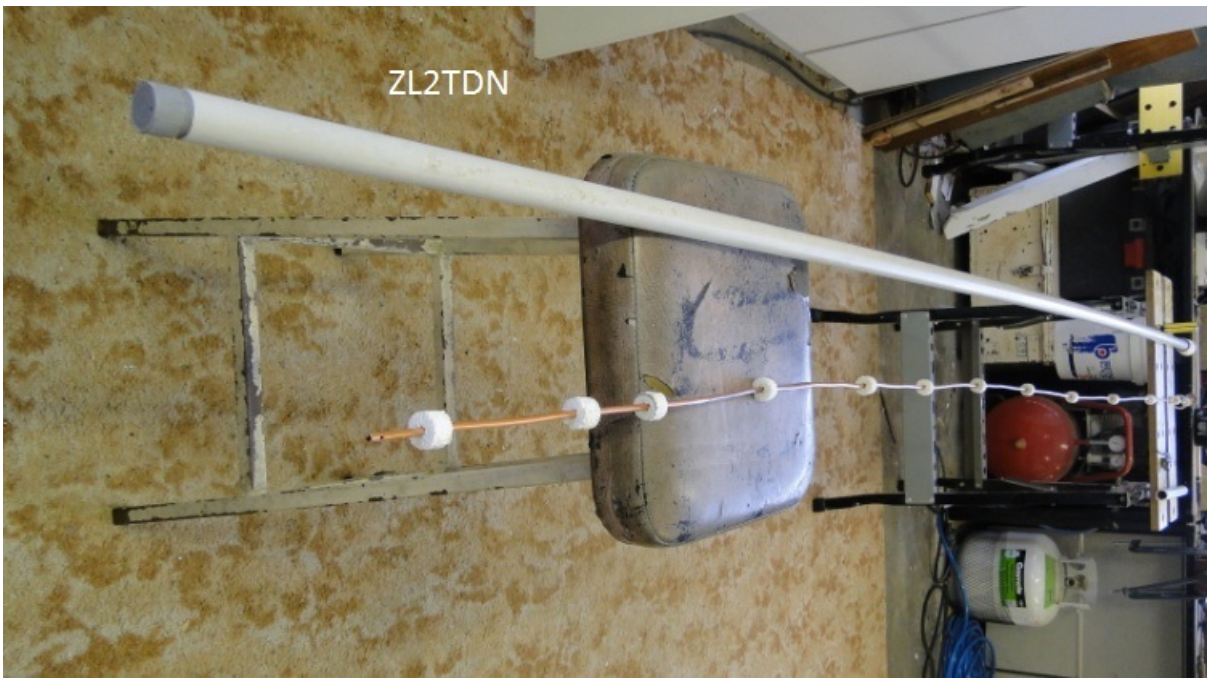
There was no response to my question of a Christmas dinner, so perhaps a BBQ at the clubrooms on the last Friday of December perhaps? This would be Friday 20 December 2013 – let me know if you are keen.

Well that's the news from me...
73's and good DV....
Mark ZL2UFI, President

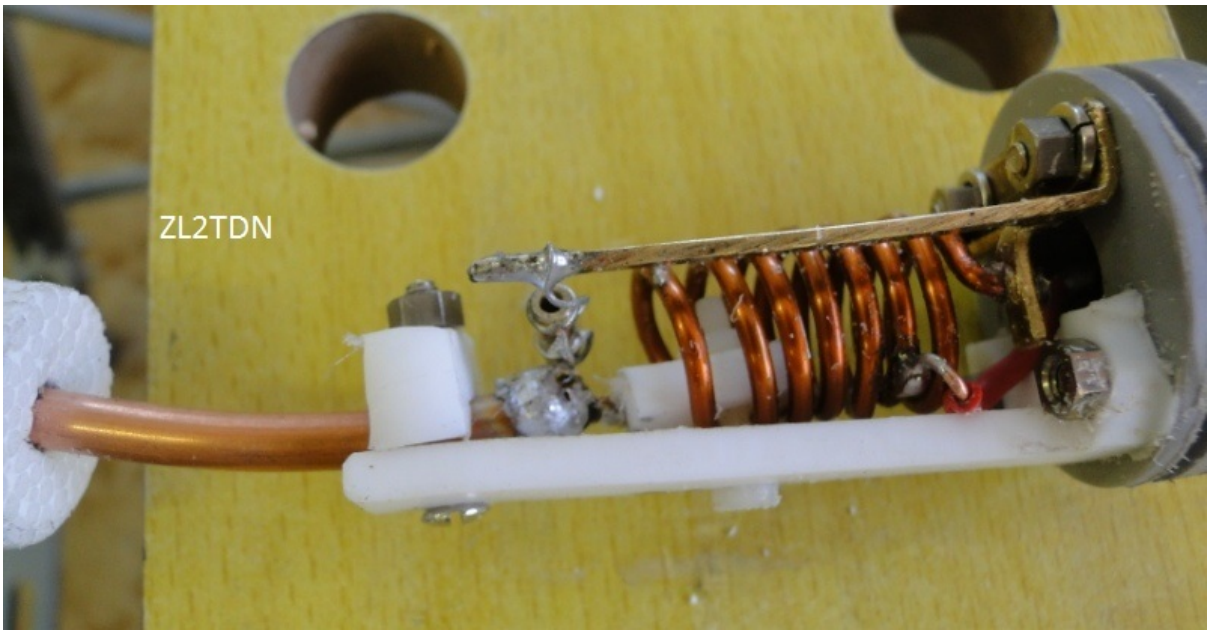
Remember the club 80m net
Every Tuesday evening at 0800UTC on 3.755MHz, but please note that it has moved temporarily to the 860 D-Star Repeater

The ZL2TDN - End Fed Half Wavelength Vertical Dipole Six Metre - for 395 repeater

This antenna was designed and built in a week, it is a little unconventional in being end fed, I have never seen one before so it was a challenge, there is a brief mention in the ARRL Antenna Handbook.



The antenna consists of a ½ wavelength of 3/16ths of an inch copper tubing (2804 mm) with polystyrene spacers every 200-250mm. This conductor is end fed by a parallel tuned circuit tuned to mid repeater band 53.450MHz. The incoming coax at 50 ohms is tapped on to the coil at about 1.5 to 1.75 of a turn from the bottom. The coil consists of about 7.5 turns tuned by a 22pF capacitor (500V), turns are double spaced, on a 13mm inside diameter.

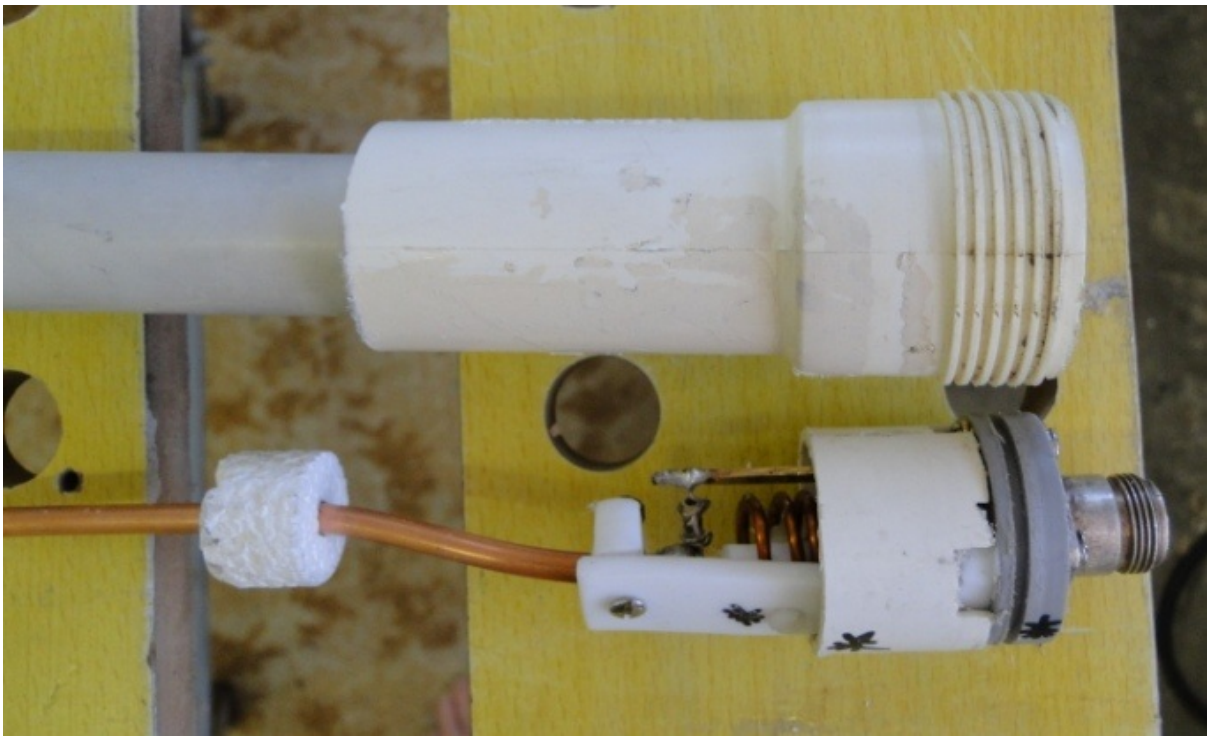


The coil is supported on a Teflon bracket and clamped to it by a nylon screw and a second piece of Teflon on the inside. The radiator tube is drilled through and bolted to the Teflon bracket.

The polystyrene spacers are glued to the main conductor with a contact cement (shoe glue) only a small amount need be used as it does dissolves polystyrene. The earth side of the capacitor returns to earth by a narrow strip if brass from a bracket under 2 socket mounting screws, a second arm on this bracket supports the earth end of the coil. The Teflon bracket is held by the other two socket mounting screws.

A 3mm hole between sets of bracket screws and the outside of the socket support disk holds a drain tube in case of condensation or leaks to enable water to escape.

Tuning is achieved by squashing or stretching the coil to achieve resonance using a Grid Dip Meter, The tapping point is adjusted for best match. The whole unit is housed in a length of 25mm conduit actually 24.8 OD. To this is glued a small length of 40mm tube with an expanded and threaded end cut from an old PVC ‘S’ bend ex a small hand basin plumbing. This was achieved by using a packing piece of PVC between the 2 outers. After gluing the two pieces of outer are heat shrink clad to hold it steady and to keep any water from getting in. It was glue impregnated heat shrink. A section of tubing was inserted behind the socket support disk to pack it just proud of the plumbing section. An ‘O’ ring was fitted to clamp up the socket disk and the sloping section of the plumbing fitting to seal the bottom water proof when the threaded nut section is tightened.



Here are the two outer parts, the packer sits in the bottom of the recess to clamp the gray socket support disk too with the clamp nut that's not shown here.

Below is the finished antenna with the nut fitted this clamps an ‘O’ ring between the nut and the socket disk and the outer threaded section inside the nut. The black material is glue filled heavy heat shrink tube. The drain tube is intended to let water out of condensation condenses, it has been shortened a little.

Here is the pole where the 10 metre Dipole supports remain after the antenna was dismantled. The six metre repeater antenna now sits across the top most four standoff tubes.

The match isn't quite as good as expected forward power 74 watts reflected 4 watts; a choke was attempted making a loop of 4 or five turns of coax about 120mm diameter cable tied together. This needs further work but the results have been most satisfying so far. It will be interesting to see if the summer temperatures cause any detuning. The radiation angle should be a lot lower that the previous one and the capture area will be increased.

Thanks to Jens ZL2TJT for the copper tube, and Chris ZL2UKT for the heat shrink and clamps to mount the antenna.

This antenna could be quite a simple home project with several good points.

- Its polarisation is vertical for repeaters
- Its end fed so mechanically water proofing is simple , seal the top. Glue a box to the bottom to house the tuned circuit and socket. A real variable capacitor would make it easy to tune.
- The socket could be dispensed with and coax soldered directly to the coil and sealed through the box.
- For a home station the mechanical design could be simplified old fashioned tag strips could be used for support of the coil the Teflon was used as I had it available.
- In low wind areas it could be supported half way up where the centre of the radiator is the low voltage high current point where a conventional dipole is fed.
- It appears to have reasonable bandwidth, was okay over 1 MHz for the repeater should be quite adequate over at least 2 MHz.

Any questions contact Gerry ZL2TDN. (*gerryt@snap.net.nz*)

AREC Exercise - Triumph Car Club Hill Climb

The Triumph Car club is holding it's once again on Sunday, January 26th, 2014 and has requested the Branch's assistance with the event.
We expect to be deploying the caravan, and the STSP repeater for this event. Last time there were some sites that were difficult to cover on simplex with hand-helds, so we expect that the repeater will help fill those holes. Needless to say, there will be checks done before the event.
If you can be available to assist with this event, please let me know.
73
Gavin ZK8ELA
AREC Leader

Repeater Report

This week John ZL2TWS and Gerry ZL2TDN commissioned a new 6m antenna for the 395 repeater. Built by ZL2TDN, the reception reports for the new antenna have been excellent.
The guys also did some investigation work on 730 noise issues and found some issues that need resolving before the new 5425 dipole stack is Installed. Following the club's decision the 10m beacon including antenna has been removed.

3 cm Beacon
A Form 10 is being prepared for license submission

1292 23 cm Repeater
On Air

860 D-Star
The G2 Gateway PC failed. A temporary IRCDDB Gateway PC is running as a temporary solution until a replacement G2 Gateway is up and running. There are a number of changes to note:
Gateway dashboard is now http://123.255.47.67 – note no https required. Dongle users must use WinDV or similar to access the gateway indirectly via a reflector. One solution for WinDV users to connect directly to the gateway is by adding a line "ZL2VH 123.255.47.67" below the #Gateway section in WinDV's dphosts file.
RF users can link using the standard formats. Additionally there are DTMF link control and status commands available.

5425 D-Star
Off air pending new antenna installation.

730 2m FM Repeater
The 730 repeater failed. It's going to be assessed during the upcoming working bee.

6m FM Repeater
Back on air with a brand new Antenna. Reception reports are welcome!

Simon ZL2BRG
Repeater Trustee

Club newsletter format change

Just an 'FYI', the newsletter format has changed back to one that is less tedious to prepare.
David ZL2DBP

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