BREAKOUT

The Newsletter of the Hastings and Napier Amateur Radio Clubs

Hastings Branch 13 NZART – Napier Branch 25 NZART

Volume 21, Issue 8, August 2021

Hastings Br 13 Club Calls
ZL2AS
ZL2QS

Napier Br 25 Club Calls
ZL2GT
ZL2G

IRLP
Node 6793
147.250

Branch's 13/25 Net
9.00 AM Sunday Morning
670 Repeater

Editor
John Newson ZL2VAF

A montage of pictures from the Rally of Hawke's Bay held on the 24th July

http://www.zl2gt.nz/ **http://www.zl2as.org.nz/**

Emergency Call-in Frequencies: 3615khz and 670 repeater

Inside This Issue

NAPIER BRANCH 25

President:	***Dave Crook ZL2MQ,***	***02102969006***	***email davey.crook@gmail.com***
Secretary:	***Karl Matthys ZL1TJ***	***845 4372***	***email karl@waspnet.co.nz***
Treasurer:	***Stuart McLeod***	***8445706***	***email stushe@slingshot.co.nz***
AREC:	***Mike Bull ZL2VM***	***843 6052***	***email rlb.mbb@xtra.co.nz***

Committee:

Revell Troy ZL2SS	***0210742837***	***email revelltroy@hotmail.com***
Michael Mullins	***8434210***	***email michaelmullins@xtra.co.nz***
Peter Breen ZL2CD	***0274721527***	***email peterbreen@clear.net.nz***

Committee Meetings: ***7:30 pm, 3rd Tuesday of January, March, May, July, September, November***
Club Calls: ZL2GT, ZL2G
Club Web Site: http://www.zl2gt.nz/

Club Nights: First Wednesday each month (except January) 7.30pm at the Club Rooms: 123 Latham Street Napier

From Napier Branch 25

From the last general meeting of Branch 25:

Show and tell night, where anything can be brought along to show the team.

General business was followed with "Show and Tell ", this was well supported with Dave ZL2DW, bringing along the original 670 VHF repeater, along with other interesting bits and bobs, Peter ZL2LF, with a home brew USB audio device, vastly superior to a standard computer soundcard, a HB stereo micrphone and a handy device for pulling the tabs on cans. Bob ZL2AN showing us and explaining his German made stepper style Antenna control Unit, Errol ZL2IT showed his home brew voltage up converter 12vdc to 150vdc for wartime radio restoration as a battery eliminator and a crystal replacement board, Mike ZL2MY brought along his baluns for loop aerials (and other uses) and yours truly ZL2MQ showed an upmarket VNA, which features N type connectors and a metal case. Discussion on all these items was vigorous, enjoyable and extended.

Next meeting, assuming we have been freed from the covid 19 lock down, I will deliver a presentation of my mag loop controller and actual mag loop aerial, boy if you want to spend a lot of learning time, take on a mag loop project, I have learnt and am still learning a heap about these critters, this will be followed by the usual chat / cuppa. All welcome on Wednesday 1st September at 7:30pm. Usual Venue at the Clubrooms Latham Street.

I have spent limited time on the radio, and have just made a few EME contacts, but am heartened with news that a Dxpedition with EME will take place in the next few months, although only 6 metres, it is an encouraging sign that things are on the improve out in Radio world. The only other contacts this month have been on FT8 where I have been testing the loop aerial, I tried 20 metres, and by selecting various SDR receivers around Australia was able to see my signals right across Vkland even to Perth. I didn't try further afield.

Hopefully, our Covid 19 Alert level will drop back to level 1 soon and we can get on with our lives.

I wish you all an enjoyable month in Ham Radio, see you at the next meeting!

73 Dave ZL2MQ

HASTINGS BRANCH 13

President:	Blue Smith ZL3TT	Ph 027 220 3724	email: kgsmithblue@nowmail.co.nz
Vice President	Robert Wallace ZL2SG	Ph 878 4993	email ffonzrjw@gmail.com
Secretary:	David Walker ZL2DW	Ph 876 0518	email david@apexradiocoms.co.nz
Treasurer:	Peter Moore ZL2HM	Ph 06 68577340	email: pikam@xtra.co.nz
AREC/CD	John Newson ZL2VAF	Ph 027 230 3642	email: zl2vaf@gmail.com
AREC Deputy:	Robert Wallace ZL2SG	Ph 878 4993	email ffonzrjw@gmail.com
Committee:	Ray Barlow ZL2RB	Ph 06 878 6068	email: r.w.barlow@xtra.co.nz
	Rob Leicester ZL2US	Ph 878 6381	
	Peter Keong ZL2PW	Ph 027 217 1315	email: pkeong@xtra.co.nz
	Brendin Graham-Ireland ZL2SB	Ph 027 777 2262	email: brendingi98@gmail.com
	Stephen Simpson ZL2SPF		

Hastings QSL Distribution:	Wally Shuker ZL2MO	Ph 843 5497	email ZL2MO@hotmail.co.nz
Magazine Editor:	John Newson ZL2VAF	Ph. 027 230 3642	email john@thecomputerman.co.nz

NZART License Examiners: Peter – ZL2HM, Dave – ZL2MQ, Ray – ZL2RB
Club Call: ZL2AS and ZL2QS

Club Nights: Fourth Wednesday each month at 7.30 pm Pakowhai Hall, Pakowhai Road, Pakowhai

From the Top Table

Well here we are again in lock down and I'm guessing that we will not be able to have our Club meeting on Wednesday night so this will mean that we won't get a talk by the CD man.

Now we will have an on air meeting on Wednesday night at 7.30pm on 146.700 so if you like you will be more than welcome to log in as there will be messages to pass on to you all.

Just to make matters worse I have come down with a cold and like all that get a cold I'm all stuffed up so I would not have been able to attend the meeting even if we did have one.

I guess while we are in lock down some of you will take the time to fix your station or make improvements. It will be a good time to make something that you may have been wanting to do for some time.

I finally got a new Balun from DX engineering and put it up on my tri band beam and what a difference it has made, the old balun would have been ok but it had a low power rating where as the new one will handle up to 5 kw and the baluns that DX Engineering make are well made and inside a very good weather proof plastic box.

The unun that I did order thinking that was what i needed was wrong so ended up reordering the right balun and now I have loaned the unun to Peter zl2hm to use on his wire antenna to see if that will help him get his station up and running, hope it works for you Peter, as we all should know a unun is for antennas that are unbalanced.

I have just finished read about the Navajo natives that used there language to send code messages in WW2. I will try and attach it to this along with a picture of the statue that was put up to remember these guys.

Well that's it for this month and hope we can get back to some sort of normality soon whatever normality is now days.

your president Blue ZL3TT Branch 13 HBARC

Branch 13/HBARC, Hastings, office bearers,
David Walker ZL2DW (Secretary),
Blue Smith ZL3TT (President),
Peter ZL2HM (Treasurer).

Navajo Code Talker Day

August 16 at 10:29 AM

So yesterday marked the very first Navajo Code Talker Day as an official holiday in Arizona. During WWII, 400 Navajo men used their language to create a special code that was used to compose and transmit messages. The code was never broken. These Navajo men participated in every major Marine operation in the Pacific Theater. During the bloody fight for Iwo Jima they fired off more than 800 messages in the heat of battle that were crucial to victory. The code talkers are credited with saving hundreds of thousands of lives and shortening the war.

Sadly, their work was classified for decades. These heroes weren't even allowed to tell their kinfolk what they did during the war. By the time acknowledgement was officially given, they were old men with many already gone. A very moving tribute can be found at the Navajo Code Talker Memorial in Window Rock, pictured here. In 2021, National Navajo Code Talkers Day was declared a legal state holiday in Arizona. Each year August 14 honors the courage of these men and their critical role in the Allied victory of World War II. Thank you for your service.

Here is a link for a little more information
https://blogs.va.gov/VAntage/64650/navajo-code-talkers/

Editors note: it is well known that Maori language was also used (sometimes by radio) during WW2 to hide information from the enemy

NO BRANCH 13/HBARC AUGUST MEETING

There will NO Branch 13/HBARC meeting on 25 August (at Pakowhai Hall) (due to COVID) INSTEAD there will be an "On Air '670 Meeting" at 7-30pm on Wednesday 25/8 night. Do log in when requested to do so.

A Historical Repeater Access (and reminiscence).

At the last Br anch 25 "Show and Tell" meeting I presented the first (channel F and) 670 VHF repeater equipment sited at Kahuranaki HB (2224 ft asl, south of Hastings). It was a design from the "Waikato VHF Group" and installed at Kahuranaki in 1977 (I think).
A special memory I have of accessing this repeater was in about 1978 when I was working at Tolaga Bay (north of Gisborne). Tolaga Bay has a local hill near the coast called Titirangi (1110 ft asl). I was able to be up on this hill top with my (ex AM LMR service) Pye Continental R/T (10w output), modified for 2m FM....using a quarter wave magnetic aerial on the vehicle roof. Titirangi is 190kms (approximately) from the Kahuranaki 670 repeater. Could I access the 670 repeater, yes I could....and made a contact through it (sadly I can't remember who with) ? Anyway there it is... .....take the time to have a look at that path, it comes down the East Coast and over Gisborne City ish.... and then across Hawke Bay to Kahuranaki.
Can anyone beat that distance into 670 HB ?
David ZL2DW

David ZL2DW installing (with assistance from Mike ZL2VM) the temporary Car Club repeater at Ridgemount (near Lake Tutira) for the 24 July 2021 Car rally event

An excerpt from HY-GAIN on fault finding and tuning trapped beam antennas

To isolate which problem you have, the,VSWR bridge should be incorporated in the transmission line, the end of the transmission line should be disconnected from the antenna, and terminated with a non-reactive dummy load of 52 ohms. The measured VSWR should then read not over 1.05:1. If the coax is okay, the antenna should then be adjusted to resonate back at its original design frequency. To accomplish this, an antenna scope must be used directly at the terminals of the antenna in conjunction with the transmitter as an exciter or an accurately calibrated grid dip oscillator.

ELEMENT BREAKAGE

This is caused by “element oscillation” at low wind velocities.

The lengths of tubing required for these frequencies easily lend themselves to vibration. Failure is not due to inferior tubing, but just plain ordinary "fatigue" of the metal. Even power lines utilizing stranded heavy cable suffer such “fatiguing” if not dampened.

Simply thread a length of rope equal to the element length down the center of each element and fray a few strands over the end of the element. Hold these strands in place with the element caplug.

Follow the checks outlined below and advise me of the results.

1. First off, make sure that your transmitter will load into a dummy load on all bands. Verify the frequency by use of a wave meter or a grid dip oscillator with the "plate" off.
2. Check the VSWR bridge into a dummy load (52 ohms resistive) to verify a reliable reading. Do not use a light bulb. The bridge must “null out” to zero on all frequencies being used. Connect the bridge as close to the transmitter as possible.
3. Now terminate the end of the coax with the dummy load, (antenna side) and check VSWR. It must not exceed 1.05:1.
4. Check solder connections of the coax and fittings for opens, shorts, and intermittents.
5. If a balun is used, check the input connections. Also, terminate the output end of the balun with the 52 ohm load for VSWR not exceeding 1.25:1. If a balun is not used, check coaxial cable electrical connections directly at the driven element terminals.
6. Most baluns of the 1:1 ratio type will check DC short. This is normal. To isolate, however, jump the balun and feed the coax straight into the antenna to see if the balun is at fault.
7. Check all dimensions of the antenna to make sure they conform to those as shown in the manual. Also check Orientation of traps.
8. Check beta match arrangement for good electrical connections.
9. Check the continuity across each trap. Wiggle the element to determine whether or not an intermittency is present.
10. Check the ground end of the traps for poor electrical connections. This is the stamped end pointing toward the boom. (Tighten the quarter inch hex screw underneath the trap cover.) Be sure that the trap cover is placed back on tight.
11. Plus or minus 1/4 of an inch in dimension variation is acceptable.
12. High VSWR on ten meters, but good on fifteen and twenty, indicates a poor electrical connection on the ten meter driven element trap.
13. High VSWR on fifteen and twenty meters, but good on ten, indicates poor electrical connection of the fifteen meter driven element trap.
14. High or low resonance on twenty meters only, with good VSWR On ten and fifteen, indicates electrical height of the antenna above ground is closer than anticipated. Whenever the lowest frequency of the antenna is resonating low on frequency, this is due to affect of surrounding objects or not enough height above surrounding objects.

15. Any changes in dimensions on the lengths of tubing between the ten meter trap will affect all three bands.
16. Any changes in dimensions between the ten and fifteen meter trap will affect only fifteen and twenty meters.
17. To solve resonance problems, merely shorten or lengthen that segment of the antenna which will shift the resonance of the particular band. For example: On twenty meters if the antenna resonates low in frequency, shorten the outside ends of the driven element approximately two inches on each side. This should give you about 180 Kc frequency shift upward. This will not affect ten and fifteen.
18. The capacity of the driven element bracket to the driven element is critical. Make sure the driven element tubing "butts" against the bottom of the driven element insulators.
19. Other antennas resonant below 30 mc must have at least a ten foot separation from the beam. On VHF frequencies, 50 mc up, six foot absolute minimum spacing is required.
20. Height above electrical ground affects resonance, VSWR, front to back ratio. Feed line radiation due to RF on the coax can result in poor front to back ratio and high angle radiation. To eliminate: ground the tower at the base and directly connect braid of down lead to the tower ar irregular intervals. Place the feed line inside the tower if possible or tape tight to the outside of the tower.

More on resonance: The resonance of the antenna can be changed by shortening portions of the antenna directly related to the frequency being used. Lowering the frequency is done by lengthening the related portion. Change 2 to 3 inches at a time, beginning on the highest frequency in case the capacity affect of the changes of the radiator on the lower frequency section has caused some affect. Repeat adjustment as necessary.

If the need for any repair parts should arise, please contact us to secure replacement pricing and ordering information. Should the cause for your difficulties be due to faulty workmanship or materials, it is most important that the dates and place of purchase and serial number be included in all correspondence. Our normal warranty extends for ninety days from the date of purchase.

Do not return any suspect of defective components unless requested.

Unun Balun

Eric ZL2TSU

Next project for this month is a long wire aerial, cheap to put up and feed into my little shack.

Now I don't know about you, but, I am allergic to rain static and other voltage building up on my aerial system and giving my input circuit of the whatever I've plugged in a zap.

So I decided to put on a 9 to 1 voltage unun balun on the aerial system for the feed into my equipment.

Now I had one of these ferrite toroid rings in stock as they say ,it came out of something that came into the scrap yard, saving it like you do.

The wire I used came by unwinding from a mains choke on some other electronic equipment.

The pink look about it is thread tape that I bought from Bunnings shop. They say, according to what I have read, that it is stronger than the white stuff.

I am told this is a gas fitters thread tape so that is what I used.

I wound some winding's on as per the diagram and soldered it to a piece of tag strip as per photo.

Installed it outside on the aerial system.

The green wire is to the earth as we would think, and brought it into my shack with coax.

Hopefully it will work, and I should be protected from any static buildup on the aerials system.

That was quick and easy so I'm off in side for a coffee and a bickie.

Eric 73