



Hastings
Br 13
Club Calls
ZL2AS
ZL2QS

Napier Br
25
Club Calls
ZL2GT
ZL2G

IRLP
Node
6793
147.250



Rob, ZL2US presenting the AOC awards to Xenia ZL4YL at the July, Hastings Br13 meeting. Xenia was the youngest person (14 years old) to pass the amateur exam in 2015, received the best examination result in the under 18 years of age category 53/60.

<http://www.zl2gt.nz/>

<http://groups.yahoo.com/group/zl2as/>

Emergency Call-in Frequencies: 3615khz and 670 repeater

**Branch
Nets**
9.00 AM
Sunday
Morning
3615 kHz
439.175
MHz

Editor
John
Newson
ZL2VAF



Inside This Issue

| | |
|-----------------------------|--------|
| Hastings Branch 13 Report | Page 2 |
| Napier Branch 25 Report | Page 3 |
| A Consequence of the outage | Page 4 |
| "Boot Camp" weekend | Page 4 |
| AREC Day | Page 4 |
| Branch 13 Meeting and guest | Page 5 |
| Maoranui Taupo Repeaters | Page 5 |
| Antenna Designs 101 | Page 6 |
| Want shorter dipoles etc | Page 8 |
| Branch 20 table sale | Page 8 |
| My Ham story | Page 9 |

HASTINGS BRANCH 13

President: Rob Leicester ZL2US Ph 8786381
Secretary: David Walker ZL2DW Ph 8760518, email david@apexradiocomms.co.nz
Treasurer: Peter Keong ZL2PW Ph 8774529 email: pkeong@xtra.co.nz
AREC/CD: John Newson ZL2VAF Ph 876 0370 email: zl2vaf@gmail.com
AREC Deputy: Robert Wallace ZL2SG Ph 878 4993 email ffonzrjw@xnet.co.nz

Committee:

- Jan Suldovsky ZL2CZE Ph 021 833 487 email jan.s@eastek.co.nz
- David Sullivan ZL2OK Ph 06 8578853 wk email: bfr@xtra.co.nz
- Ray Barlow ZL2RB Ph 06 878 6068 email: r.w.barlow@xtra.co.nz

Hastings QSL Distribution: Wally Shuker ZL2MO Ph 8435497 email ZL2MO@hotmail.co.nz
Magazine Editor: John Newson ZL2VAF Ph. 027 230 3642 email john@thecomputerman.co.nz
NZART License Examiners: Peter – ZL2LF, 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 TOP of the TOWER MAN

Hello All,

So who enjoyed the wide spread power outage on Sat. 6 Aug. last ?..... probably no one, but it was a wake up call re emergency requirements.....and those of us with station battery supplies just kept rolling along.....it kept us occupied while watching the kettle boil on the BBQ.

At our last meeting I had the great pleasure of presenting awards to Xenia ZL4YL, our local, new, young amateur operator with a bright future ahead of her, well done Xenia.

After our last meeting we held our annual "Donated Junk Auction". It went well enough with heaps of "stuff" and indeed some bargains but this year our buyer numbers were well down.....have you folk got lots of junk, oops good stuff, already hi hi ? Having said that we were able to turn about a slight negative into a definite positive (by secret means....wait 'til next year) and we ended up with a good return to cover much of our clubs standing costs for a year so all was not lost. Thank you to all the "stuff" donors.

After negotiations with the Hastings District Council the agreed conclusion document went to the Appeal Court and in short order was approved. Yippee, a great outcome for all concerned. Our thanks go to Mike ZL1BNB for his substantial input and help and indeed to the HDC Planning lady we dealt with.....I can tell you that the United Nations negotiators could learn a thing or two, it's amazing what can be achieved when both parties are willing to have a satisfactory outcome. In brief conclusion we in the HDC area are allowed a single mast/structure of 20m with six more supporting masts and a dish up to 5m in diameter.

There is, of course, more to it than this but the mast height was the real winner. The document is available for those that wish to read same and it will progress through the HDC planning department in due course. Thank you to all involved.

Our next brief Branch 13/HBARC meeting instead of being an evening one, will be a day time one, at 2pm on Sun. 21 Aug. and will feature a retired Lady guest speaker with a connection to Radio Servicing. It will be a time to bring your xyl/partner along to enjoy the presentation. We will have a light BBQ and cuppa afterwards.

HF has been a bit poor recently but Summer is not far away.

73 for now, Rob Leicester ZL2US (President Branch 13/HBARC, Hastings)



*Branch13/HBARC Officers
(left to right)*

*David Walker (ZL2DW, Secretary),
Rob Leicester (ZL2US, President),
Peter Keong (ZL2PW, Treasurer)*

NAPIER BRANCH 25

President: Wally Shuker ZL2MO 843 5497 email ssplat@xtra.co.nz
Secretary: Karl Matthys ZL1TJ 8454372 email karl@waspnet.co.nz
Treasurer: Stan White ZL2ST 845 2422 email stan.white@clear.net.nz
AREC: Mike Bull ZL2VM 843 6052 email rlb.mbb@xtra.co.nz

Committee:

Michael Mullins ZL2MY 843 4210 email michaelmullins@xtra.co.nz
Dave ZL2MQ, 0212428959 email dave.crook@maisonblanche.nz
Revell Troy ZL2SS 0210742837 email revelltroy@hotmail.com
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 the gold card guy in the chair

Which there are getting more of you in Branch 13 / Branch 25

Sitting here on a lovely day who would think its winter.

I see daylight hours are getting longer which is a good sign.

Only one thing with more daylight hours it means not long to XMAS..

Yes nearly that time again.

On the 3 Aug 2016 Branch 25 had there meeting. Looking around at the meeting I think that's the most I've seen there in a long time.

I don't know if it was that in the reminder about the meeting that Karl mentioned the chocolate bikkies or the speakers we had for the night.

One or two things out of the meeting.

Laurie ZL2TC resigned from being trustee of the club repeaters as he is moving out of the area at a later date.

Dave ZL2MQ was asked if he would take this on in place of Laurie which he agreed to, thanks Dave.

After the meeting Dave ZL2DW gave a talk on repeaters and how they work.

It was an interesting talk with a few question asked and answered.

Dave also had the old 670 repeater there for us to look at.

After Dave, Laurie ZL2TC stepped up an gave a talk on the 725 repeater which is installed up on Taraponui.

The first 725 was installed in 1981. it was replaced with a new system in 1995.

Taraponui has extreme weather conditions which causes problems to antennas.

Most of which is ice loading on antennas, along with high wind combined break antennas.

I just like to thank those that go there in all conditions to keep it running.

For those DXers

OA7/ DL1CW will be on the air in PERU Will be active from 17 AUG--10 SEPT.

All QSL calls via home call. DL1CW

Wally

ZL2MO

73

A Consequence of the Recent Hawkes Bay Power Outage

As some of you know my home station runs on batteries, this means that when the mains goes off my station keeps going.....like it did on 6 August last when most of Hawkes Bay and Gisborne area was without power (coming from Wairakei), due to bad weather.

I took this chance to see what was happening on my HF receiver..... almost complete silence/normal "radio noise".

My normal 80m S meter reads S6.

While the power was off it read less than S1.

As the surrounding area power came on line the S meter began to rise, initially up to S4 and then finally when my home area power came on the S meter returned to S6.

So "town noise" has a lot to account for at HF frequencies. The Hastings Hospital tower block is about 400m away from my home/aerial and was active (on it's own generator) during the above times..... so I concluded from this

- that the Hospital does not cause me any interference problems, and;
- any "town noise" to my station is sourced probably within 200m of my home station/aerial.

An interesting event and exercise.

David (ZL2DW Hastings)



"BOOT CAMP" Weekend

Branch 13 is hosting an Amateur Operators Certificate "Boot Camp" weekend on 12 and 13 of November 2016 at Pakowhai, Hastings.

Do some prior home work, come along for the two days of tuition, sit the AOC examination and if you pass go home Sunday afternoon with your "ticket".

There are costs and fees involved and pre registration is required.

Contact Rob ZL2US, ph 06 8786381 for details and registration.



AREC Inventory, Training and Have a Look Day

On the 21st of August we are having another day to inventory, deploy and check all of the AREC gear. If you want to pop along and have a look now is your chance. We will be at the Pakowhai Hall by 10am and expect to be there till at least 2pm when the Branch meeting will start. All welcome.

Any queries contact John ZL2VAF 027 230 3642/876 0370 zl2vaf@gmail.com

Br 13/HBARC Meeting and GUEST SPEAKER

The next meeting of Br 13/HBARC will be on Sunday 21 Aug. at 2pm (there will be no meeting on the normal date of 24 Aug.), followed by a light BBQ and cuppa. Several amongst us are Registered Radio Servicemen with associated Electrical Registration.....or were.

After our above meeting we will be addressed by Diane Story, from Napier, who began her apprenticeship towards being a Registered Radio Serviceman ?????? in 1960. Some of you may have read about Diane's career history in our local paper back on 21 April. After our above meeting Diane will talk about her early days and career at a time when she was the only female trainee in the industry.

Do bring along your XYL/OM/partner and enjoy the afternoon, all welcome.



Maroanui Taupo Repeaters



Taupo Br 60 repeater '675 and National System, snowed in and suffering from mains loss, pix courtesy of Stu ZL1PRT.

675 is linked to Napier Br 25 '725 repeater at Taraponui HB



Antenna designs 101 by Mike S Mather ZL2CC

Forty metre dipole antenna design

The basic formula for designing any wire dipole is usually given as;

468/MHz to give an answer in feet or

142/MHz to give an answer in metres.

While these formulas seem like they should give the correct dimensions for dipoles they are really more of an approximation. They will give an approximate total length for the antenna and should be on the long side of things. This is desirable as the real world situation means that the theoretical values will need adjusting. It is easier to shorten an antenna wire by folding back on itself than to lengthen it. If the antenna wire used is insulated this will also effectively lower the resonant frequency making a shortening of the length necessary. See the tables below.

The theory and discussions here are for the 40m band but are similar for any band.

The tables are for a 40m dipole antenna for a frequency of 7.150MHz where the formula will give an overall length of 19.86m. With reference below to the table of bandwidth against element diameter, this is a good centre frequency for 1 or 1.5mm wire. These wire thicknesses correspond to easily obtainable insulated electrical cable. Remember to cut it longer initially for the reasons following.

What height do I need to mount my antenna at? There is no optimum height for a horizontally polarized antenna. The more height the better is the usual maxim. However, look at the table below to see how the height above ground affects the impedance and the resonant frequency. Most New Zealand situations will be in the 12m to 20m heights and typical ground conditions. You will see that when in these conditions the resonant frequency has moved up to 7.200MHz. This means the antenna wire is too short and the impedance is 73 to 84 ohms also too high.

The impedance can be changed by angling the legs into an inverted V configuration but the length will need to be physically changed. Hence cut it long to start with. It can be temporarily shortened by doubling the wire ends back on themselves and hand twisting along the length. Cut off and seal after all adjustments have been completed. Remember to adjust the leg lengths equally both sides.

The radiation pattern off a straight dipole depends on many things but in general if the dipole height is more than one wavelength above good ground it will be predominately broadside and tending towards omni-directional as the height decreases. In practise if you have the capability to mount a dipole at 40m height a better choice of antenna is required. Maybe a loop but that is another story for later. Therefore, as your antenna is likely to be mounted around 12 to 14 metres high, then go for an inverted V configuration. This only requires a single support point and will improve the impedance as shown in the tables.

| Height metres (feet) | Frequency MHz | Typical ground Impedance | Perfect ground impedance |
|-------------------------|---------------|-----------------------------|-----------------------------|
| 40 (132) | 7.175 | 73.5 | 72 |
| 30 (100) | 7.100 | 75 | 60 |
| 20 (66) | 7.200 | 68 | 70 |
| 12 (40) | 7.200 | 84 | 92 |
| 8 (26) | 7.060 | 73 | 63 |
| 4 (13) | 7.080 | 53 | 22 |
| Free space | 7.150 | | 75 |

Table of frequencies against height above ground for antenna designed for 7.150MHz

| Angle degrees | Frequency MHz | Impedance |
|---------------|---------------|-----------|
| 180 | 7.150 | 73.5 |
| 160 | 7.160 | 72 |
| 140 | 7.170 | 67 |
| 120 | 7.200 | 59.5 |
| 100 | 7.260 | 49.5 |
| 90 | 7.290 | 43.5 |

Table of frequency and impedance against angle at apex of inverted V wire antenna

| Thickness of insulation | Frequency MHz | Impedance |
|-------------------------|---------------|-----------|
| No insulation | 7.150 | 73.5 |
| 0.05mm | 7.010 | 71 |
| 1.3mm | 6.890 | 69 |
| 2.5mm | 6.740 | 66.5 |

Table of frequency and impedance against insulation thickness of antenna wire

| Element diameter | Frequency MHz | Impedance | Bandwidth in kHz |
|------------------|---------------|-----------|------------------|
| 1mm | 7.160 | 74 | 290 |
| 1.6mm | 7.150 | 73.5 | 310 |
| 5mm | 7.120 | 72.5 | 355 |
| 10mm | 7.100 | 72.3 | 400 |
| 25mm | 7.055 | 72 | 445 |
| 50mm | 7.010 | 72 | 500 |

Table of bandwidth, frequency and impedance against element diameter

To sum up; use the formula to give you the wire length and cut it a little bit longer. Choose your method of support, hoist it up and adjust as required. This will take several attempts so don't despair. Use an antenna analyser to set the antenna resonant frequency and impedance and start working the DX.

Now go have some fun working the DX

73 Mike S Mather ZL2CC



Laurie ZL2TC showing and talking about the first '725 repeater, at the August Branch 25 meeting



Stu McLeod talking about his recent "playing" with a radio operated bird scarer. A home made VHF ground Plane is on the floor near his leg. As presented at the August Branch 25 Meeting



Want shorter Dipoles etc

have a look at this link.

http://www.k7mem.com/Electronic_Notebook/antennas/shortant.html

73, Mike ZL2VM



Branch 20 TABLE SALE

8th Oct 2016, Longburn Hall, Palmerston North. All information is on the web site www.zl2ko.org.nz.



Punters viewing the goodies prior to the "Donated Junk Auction" at Branch 13



The auctioneers in action at the "Donated junk Auction at Branch 13



My Ham Story

Being a radio amateur has always been an on again / off again affair for me. The old man was my first inspiration, he was a Ham from Way Back. I have pictures of his first station, up in the attic of this big old house out in the country near Amsterdam. A few valves mounted on a plank, knobs, meters and dials, big coils and capacitors and a couple of bare wires disappearing through the window and probably feeding a zepp type antenna. He was about 17 or 18 then and that makes it about 1935. Radio became his profession eventually and his first job was listening for (potential enemy) radio communications as an employee of the Dutch government just before WW2.

My decision to become a licensed ham had something to do with saving money. Having migrated to New Zealand (1967, I was 24 and had a wife and a daughter) and staying in touch with the family back in Holland was by mail or by phone. To make an international call was a bit of an ordeal, it had to be pre-booked and the cost was horrendous (forgot the amount but something like several hours wages per minute). So, of course, the old man had a rig and antenna and a callsign, all I needed was the same and all would be sweet.

The 12 wpm morse was a struggle but I made it and then the compulsory months (or was it a year?) on eighty and all was well. Of course the bands and thus contacts were sporadic and the phone costs became more reasonable and then my parents were allowed to retire to New Zealand so it could be argued that the effort had been somewhat premature.

But Ham Radio stuck, I even got to like cw and made many QSOs all over the world. And then of course the usual: my lovely xyl revolted and rightfully so.

Over the years my interest waxed and waned, too busy with work, other interests and hobbies (learned to fly at one stage) but ham radio was always there as well. Retired at 65 in 2008 and dusted off the radio, built a few aerials and back on the air again.

Not that I am a regular, I get more fun out of experimenting with antennas and stuff like Software Defined Radio and similar developments.

The shack is pretty basic, Kenwood TS530S, ICom IC3200, a few hand helds, computer for PSK31 and SDR and a few peripheral bits and pieces. Antennas are just dipoles and verticals, the QTH location is not good as there are hills on three sides, even 670 needs to be accessed with a yagi.

I did invest some money in a small (1.5KW) experimental stand alone solar generation system. and (of course) discovered that this does not go well with radio reception. The electrical noise is horrendous and my initial hopes that the system would function as an emergency standby for the radio have been dashed.

So, I enjoy being a member of the Napier ARC and the social contacts it brings.

My other interest at present is promoting the concept of Universal Unconditional Basic Income which is a bit like NZ Super For All, not just us oldies. The answer to rising unemployment (automation) and inequality.

Cheers and 73,

Karl ZL1TJ



Karl's Shack

The Holland Shack

