

BREAKOUT

The Newsletter of the Hastings and
Napier Amateur Radio Clubs

Hastings Branch 13 NZART – Napier Branch 25 NZART

Volume 22, Issue 3, March 2022



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



Gisbornes '690 and National System repeater

NO MEETING for Branch 13 this month (23 March)
due to Covid.

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

<http://www.zl2as.org.nz/>

Emergency Call-in Frequencies: 3615khz and 670 repeater



Inside This Issue

Napier Branch 25 Report	Page 2
Hastings Branch 13 Report	Page 3
Our Gisborne neighbour's Repeater	Page 4
HB Car Rally	Page 5
For Sale (offers)	Page 5
Hitachi oscilloscope	Page 6
NZART Conference 2022	Page 9

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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

Napier Amateur Radio Club Branch 25 NZART

Autumn has arrived with a bit of a rush, and I have been busy dismantling my EME station and selling bits off to interested purchasers, hopefully they will be used to get someone else up on the moon.

With OMICRON now snatching the news headlines we cancelled our last general meeting. I hope you are all avoiding this thing and getting on with your lives, it seems we may not have far to go before most mandates will be removed.

My thoughts have been on portable antennas of recent months, which has kept me working on Mag loops, and started me thinking about collapsible dishes, there is at least one type available in the USA. Basically an inverted umbrella which unfurls for use, then folds up again for transport or storage. It won't be a perfect Sphere, but is light and on the lower microwave bands will have very acceptable performance, perhaps my EME days are not quite over yet hi hi.

Please remember the "donated equipment" we have at the clubrooms, some items have been sold at very reasonable prices, you should all have a list and if you want to check things out, please call me or another committee member to open up the rooms for you. Payment by direct credit to the branch bank account. First in best dressed as they say. The balance of the equipment will be sold on trade me or other web based selling system if no one local wants it. Proceeds towards upgrading the Ham Shack in the Clubrooms.

Our next general meeting is scheduled for the 6th of April, 7:30pm. at the Latham Street Club rooms, this may be cancelled if the committee feels it is too risky because of OMICRON.

That's all this month, Hopefully I will see you all at the next meeting.

73 Dave ZL2MQ

HASTINGS BRANCH 13

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Club Call:	ZL2AS and ZL2QS		

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

From the top table

Hi and hello from the top table for this month, and what a month it has been. There are pirates on the national system and we have had problems with interference on 146.700 which at the moment is quiet and hopefully it will stay that way.

If you are on the national system and the pirates come on be wise and go quiet or just wait some time till they go off. They get sick of no one saying anything as sooner or later they will be found or they will lose interest.

We are still at some what of a loss as to what was causing the interference on 146.700. All will be revealed if and when the problem can be found. It does not seem to be as easy as it sounds, remember that David runs a business and doing stuff for the club is at his cost and time so all we ask is you be considerate and respectful of this.

I have been busy working the HF bands from 40 to 10 and there are some good contacts to be had. One that I have worked on two bands now is FD/SP5EAQ. If you hear him listen carefully as his English is not all that good but still workable. Paul in Spain is still loud here at night and some times in the morning his call is EA7JZ but he is going back to Scotland soon.

The other day I was working HF when a station came on the same band and said I was giving his front end on his radio a hard time, yes this will happen if you live close to each other but if you just turn your RF gain back and make sure your Noise Blanker is off you can work close to each other. If you don't what to work the same band go a bit further away up or down the band. Never come on and tell the operator that he is wiping out your front end while he is working it can be embarrassing and very rude. It is better to just come on air and say you are listing on the side and the operator will let you in so you can make the contact as well.



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

There has still been no sign of the car that was stolen with radio gear in it. It could be anywhere now but it does bring home that we all need to be careful where we park even when at home you need to make sure your car is safe and secure. We all know that these toe rags don't give a rats you know what about anything whether its yours or some one else's they will just take it. For a small cost you can get a steering lock that goes a long way to discourage them.

This brings me to the point have you got insurance on your car and does it cover the radios in your car or do they come under your house insurance. This makes it a good time to check with your insurance company and find out if it does or not or does it come under your house hold contents. Sometimes the insurance company won't even know what you are talking about as they may think you are talking about your car stereo and not amateur radio gear.

Well that's it for this month. I hope you all have some fun on the bands and who knows we maybe will cross each other. Till we meet again stay safe and happy DXing.

Blue ZL3TT President Branch13 HBARC



Our Gisborne neighbour's repeater

'690 and the National System at Whakapunaki (for Gisborne/Wairoa etc coverage)



Aerials for 690 and the NS (The RH pole is for a site commercial user)



Equipment building and lower mast



Site ex TV tower,
now used for other
services



HB Car Rally 2022

Call for volunteers for the Car Rally to be run on Saturday 23rd July. We are in desperate need of volunteers to fill the roles required for us to provide communications for the Rally.

If you are available please contact John ZL2VAF 027 230 3642 zl2vaf@gmail.com



FOR SALE (offers)

Bird Thruline 43 with 25w 25-60M, 50w 50-125M inserts

Tech VTV Model TE-40

Trio Auto AC voltmeter VT-155

Trio CS -1022 20Mhz scope

Hitachi V-550B 50MHz scope

Hitachi V223 20MHz scope

Philips PM6668 1GHz counter x 2

HP 8648B Sig gen (turns on, display ok)

General Radio 1840A Output power meter

TOA PA amp A1061 (unsure)

Direct Imports PA amp (unsure)

Contact

Steven Reay

info@talkradio.co.nz

0800-825572 021-2221315

Talk Mobile Radio Ltd

Hastings

Hitachi oscilloscope v152 b part 2

Well as they always say "what one hand give us the other takes it away" and we also have Murphy's law which says "if the faults going to come back it'll come back at the most inappropriate time" and that is what happened.

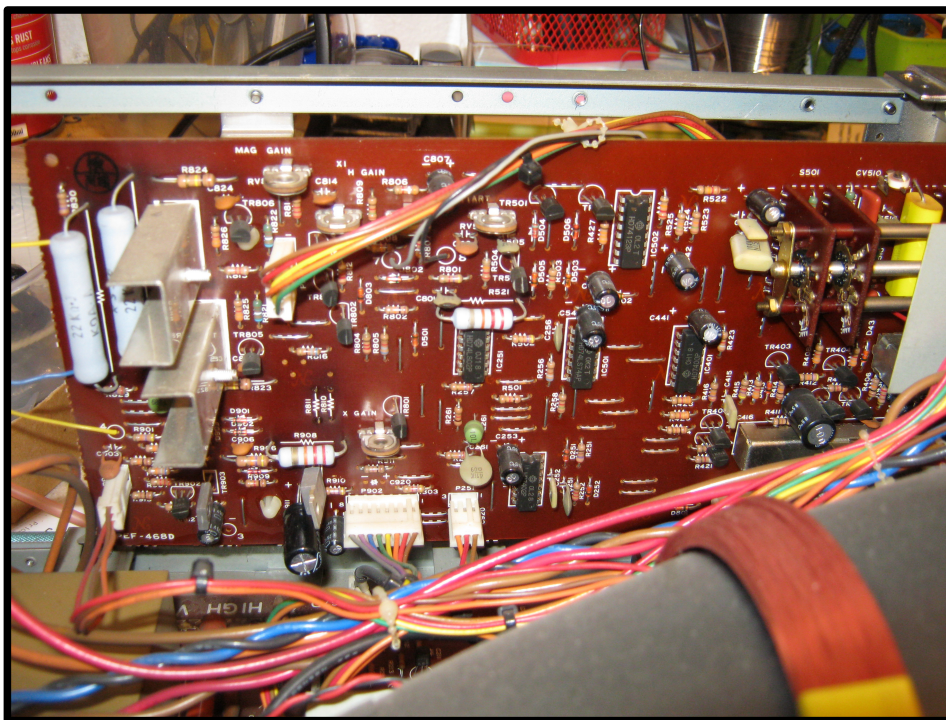
I was right in the middle of playing around with a train whistle that I had built . Its got four op-amps, I need five but that's another story.

Two of them were oscillating and the other two weren't .

I looked up at my oscilloscope and it was dead .

Not dead dead, but no time-base just up and down in the middle of the screen as per our original fault.

There in the picture of the time baseboard (fig 1) (I know which one it is because the knob that's on one end of the switch (top right hand side) says time divisions that's the clue.)



I still have no idea of what I am doing , just have some background knowledge . So, time to follow with a logical plan.

1: First thing is to give it the bash.

Now you do this very lightly, you use an insulated object like a toothbrush handle or something like that and you just gently tap around and see if you can make the fault come and go.

No luck.

2: You solder madly around the board.

This not recommended !

This is dangerous It creates all of its own problems and boy can it go south real quick, but nothing tried nothing gained.

In my case I am not old , but I am ancient and so I use four power reading glasses so that I can see what I'm doing, right up close to the tip of soldering iron.

You do run the risk of burning your nose but I need to see what I am doing.
The second problem , is my hands shake, being ancient and drinking too much coffee has this problem.

The net result is that you get too much solder on the pcb and you short things out.

So armed with my solder wick and my solder sucker I proceeded to take the risk.
Nothing made any difference

3: So now we try some logic .

I got a piece of paper out, and wrote down a map of where all the Ic's are.
Then I write down what the numbers are , and look them up on the internet.
To find out what they do and which pin is earth and which pin is for the power supply.

I so wanted it to be a power supply fault !

But my multimeter told me that on pin1 which was the power input pin for the Ic, I had 5 volts. Oh dear.

I looked up the first IC (74123P the one on the top right hand side next to the time base switch and it said that it was a oscillator, good point to start with.)

Now when working on electronic circuits you need to see wave forms .

You need an oscilloscope to fix a second oscilloscope.

I happen to have one, it is antique , I bought it in 1979 , refer to picture. (fig 2)



It still works and I proceeded to start at pin 1 and work around the pins in order.

Pin 1 : 5 volts dc.

Pin 2 : nothing of interest (just an input.)

Pin 3 : nothing of interest (just a clear input).

Pin 4: Bingo a pulse train output (Marked as NOT Q) note if there is a NOT Q There will be a Q output the same thing but inverted

Pin 13 Yes.

A twiddle of the time-base knob showed a frequency change .

Bingo. The oscillator is running.

So we now follow the print (Luke follow the print)

I'm working on the print side , I wander around from where I can see a signal to where it leads.

It's all looking good when all of a sudden , the signal changes from pulses to a saw-tooth waveform This is good.

This is what you need to feed up to the tube to get a scan from one side of the tube to the other side.

So looking at the other side of the board you see on the far left-hand side two big heat sinks. (fig 1 again)

Now very early on, you learn NOT to touch them.

You do not touch them to see if they warm because: believe me they are hot with voltage !

I look at them with my multimeter and find that I had 167 positive volts on one and 160 volts negative on the other.

These are the scan output transistors to the display tube.

Oscilloscopes don't use magnetic scanning like Picture tubes and televisions do.

They use electrostatic scan. and coming from the PCB where the transistors are, are the wires that ran up to the tube sockets .

We had no signal at the outputs so somewhere between where I found a saw-tooth wave from and the output is where the problem is.

Now this part of the circuit are all transistors , so working around the three leg's , we see what you can find.

You don't need to know which leg is which , you can tell from the readings so on we go.

A wander around I found something that looked odd.

Something on one pin, of a transistor, and nothing on the others .

A check on the other side I found two transistors beside each other, both with the same looking components around them.

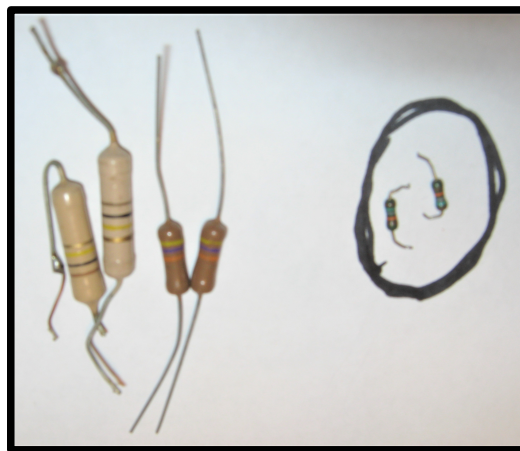
These look like where the saw-tooth splits to feed the two output transistors.

Two resistors (very small) caught my eye.

The multimeter said 100 volts on one side and nothing on the other on both of them.

These must be collector feed resistors.

If you refer to the third photo (fig 3) you'll find the 2 resistors inside the black circle as per photo.



Hopefully this is the last of the saga , But the thing I know is "That I can't tell the future."

Sometimes in electronics these things come back to haunt you.

But I'm off back in side for a coffee and bickie.

73 Eric

NZART 2022 CONFERENCE

The original venue James Cook Grand Chancellor Wellington advised Headquarters on 10 March 2022, that they can no longer host our annual conference due Covid restrictions placing a delay on their refurbishment plans, namely electrical upgrades.

Council held a special meeting on Wednesday 16 March to determine options available to us at such late notice.

Council agreed to change the date and venue as the alternative.

Date of Conference 2022:

10-11 September 2022

Venue:

The Brentwood Hotel, 16 Kemp Street Kilbirnie, Wellington

AGM Commencement:

10.30am Saturday 10th September in the Kauri Room of the Brentwood hotel

No other locations were available to us in June, as Covid has affected a number of organisations holding their conferences in or around May/June. Therefore, as we have already held the 2020 AGM at the Brentwood, (again due to Covid and the cancellation of the Greymouth Conference), it was prudent to return to their tried-and-true venue.

The Brentwood Hotel offers a free hotel shuttle service and free on-site parking and is located only minutes from Wellington airport.

Accommodation is available at the hotel, with a number of rooms already set aside for attendees to book, we will provide a booking reference in due course.

The weekend will be run as per information already published on the conference web site <www.nzart-conference.nz>, with the only change being the dates and location.

It is still intended to run the NZART AGM and AREC Annual Meeting on Saturday 10 September, Saturday evening dinner and AGMs/Forums on the Sunday. An Alternative programme

will run on both days. The conference will conclude on the Sunday 11 September at 3:30 pm. This timetable will allow people to fly in on the Saturday and leave on the Sunday, only requiring a single night's accommodation if that is your intention.

Once all pricing is confirmed, a Conference Registration Form will be available on the conference web site and published in an upcoming Break-In, namely the May-June issue.

NZART Council will hold its annual face-to-face meeting on the Friday 9 September 2022. AREC Management will run their meeting also on the Friday.

NZART realises that this change will affect those who have booked travel or made other arrangements to attend in June, but the circumstances are beyond our control.

We hope to see you all in Wellington over the weekend of 10-11 September 2022.

NZART Council

Thursday 17 March 2022

