



## ZL2VH Newsletter – July 2016

### President's Report

Well July is upon us already and the weather has turned for the worst. It's looking like the painting work on the South Repeater hut has worked and the hut certainly seems drier.

So much so that the mice have started to take up residence in the 730 cabinet. We have had a clean out and re-laid poison and have had 2 victories so far.

This month we expect to hear about the proposed Repeater Fee increases, rumours abound of up to \$175 per repeater so this will have a major impact on any future expenditure.

Upcoming events are the International Lighthouse weekend in August and the Jamboree On The Air (JOTA) in October.

<http://illw.net/>

[https://en.wikipedia.org/wiki/International\\_Lighthouse\\_and\\_Lightship\\_Weekend](https://en.wikipedia.org/wiki/International_Lighthouse_and_Lightship_Weekend)

<https://www.facebook.com/ILLWeekend/>

<http://jotajoti.info/>

<http://www.arrl.org/jamboree-on-the-air-jota>

Thanks this month must go to:

John ZL2TWS for his efforts to repair 730 and the weather station, and the time he has spent tracking down QRM sources on Mt Climie. (One major source was found to be the rattley old Trig station....).

Chris ZL2DX for his assistance in obtaining a spare duplexer for use on 730 and his XYL for getting it over the hill for us.

Gavin ZL2ACT for his time spent tuning both duplexers.

Simon ZL2BRG for the re-installation of the 730 duplexer (It was working when we left.....)

Remember we meet every Friday evening at 7.30, the more the merrier.

73's and good DX

Mike ZL2NSA

## **Branch 63 Repeater Update – June 2016**

A busy month. Recently 730 stated having crackle / noise issues. John ZL2TW and Mike ZL2NSA did some tests and diagnosed a fault with the IKTelecom duplexer.

730 was taken off air with 5425 being switched to FM as a interim measure. A bad solder joint was found and repaired. Gavin ZL2ACT retuned the Duplexer and on the 19<sup>th</sup> ZL2BRG and ZL2NSA recommissioned 730 and Dstar 5425.

The lurgies have also been at our 6m repeater 395 which is also suffering from noise on weaker signals. Diagnosis has yet to be performed but it's suspected to be a problem with the dipole antenna.

The Weather station has also been giving issues and is due to be taken down for repair.

### **Status Updates**

#### **Climie Mesh Test**

A proposal is to be put to the club by Wellington Mesh group. The proposal document was included in the June newsletter for reference.

#### **WebSDR**

No progress this month

#### **3cm Beacon**

On Air

#### **1292 23cm**

On Air with ID disabled. Waiting on proposals for future use

#### **860 DStar**

On Air.

#### **5425 DStar**

On Air

## **730 2m FM Repeater**

Back on air. Signal Reports appreciated

## **53.950 6m FM Repeater**

Suffering from intermittent noise issues. Awaiting diagnosis/repair

## **Conference Report**

(Christchurch 2016 Conference by Malcom ZL2UDF)

This was held over Queens Birthday weekend. Refer <http://www.hamradio.co.nz/amateur-program.html>

Besides the AGM section there were some interesting and informative talks presented. During the AGM some of the papers present by the officer of the section provided a view to the past, present and possible future of amateur radio. Such as the proposed uniform for AREC, Don ZL2TTL attendance at the WRC late last year and the need to watch local body plans. Read the latest Break In for more information on the last item.

Some of the talks I attended were

### **Battery technology** Blair Kenton ZL3TOY

Improved my knowledge of the old, about the new types of battery technologies available and how to make the best use of them. Included some charging myths

### **DStar part 2** Mark Gooding ZL2UFI

Hotspots: what are they and how to set them up? Programming your D-STAR radio. Filled in gaps of my knowledge.

### **Baluns** Richard Smart ZL3FZ

RF Baluns - a look at what they are, why and how they can be used. Also a review of some of the myths that these devices have attracted over time.

### **Summits On The Air in New Zealand** Warren Harris ZL2AJ

An overview of this new challenge for New Zealand. The recent activation of the South Island.

**Why contesting is cool** Mark Sullivan ZL3AB. This included a mention that the computer software program N1MM has support for the Jock White Field Day, something our branch should consider using.

The Conference was worth the time to attend.

The 2017 Conference is in Rotorua, think about attending.

## Rotorua NZART Conference Accommodation

For those who wish to make an early booking. (I'll be in G-land at a wedding that day. – Ed.).

2017

NZART CONFERENCE

Queens Birthday Weekend – JUNE 3<sup>rd</sup>, 4<sup>th</sup>

ROTORUA

SUDIMA HOTEL

### GOOD RATES

Standard Rooms \$120      Single/Twin share  
Or \$150                      including Full Breakfast

Superior Rooms \$140      Single/Twin share  
Or \$170                      including Full Breakfast

BOOK EARLY and QUOTE  
NZART QBW 2017 Conference

For Further Information or  
If you would like to host a Seminar

Please Contact: Ted ZL1MG or Margaret ZL1MB  
Or Email: [tedmarg@clear.net.nz](mailto:tedmarg@clear.net.nz)

We are always looking for articles to fill the pages of newsletter. Please forward anything no matter how large or small to the editor - Eric ZL2SET – [ericwilby@gmail.com](mailto:ericwilby@gmail.com).

For those who missed it, following is a copy of an e-mail sent out on 13 June:

## Mt Climie 730 QRT and 5425 QRV

On Monday 13 June 2016, Mike ZL2NSA and John ZL2TWS went to Mt Climie under urgency to complete long overdue upgrades and to diagnose crackle noises heard on both 730 and 395 FM repeaters.

Because Mt Climie is a shared site and a complex arrangement with many in-band frequency repeaters problems arise and it times cane be hard to find and diagnose.

### 730

730 transmitter power output was measured at 50 Watts. The output from the duplexer to the 730 antenna however was 30 watts. This did not seem to be correct with a loss of -2.2db but when installed 12 months ago was -1.4db. Antenna SWR is 1.0:1 (perfect).

Note that on a visit one week earlier the power output drop was -2.4dB. i.e. was worse and crackle was heard. It was determined from regular users of 730 that the crackle noise was first noticed after severe lightning storms during early May. We assume some static damage to cables or the duplexer. There might also be a problem with the 730 repeater as it is an old rack.

A spare loan duplexer is on its way to Branch 63. This might be needed to return 730 to service if the duplexer removed from service is found to be damaged.

730 Duplexer has been removed from Climie and is at the club rooms ready for checking. Gavin ZL2ACT we hope can check this over for us and report back as to why it has additional losses.

A **lightening arrestor** has now been fitted to the 730 north antenna stack coax cable.

### 5425

5425 DV has been changed in mode back to FM. The old Tait T800 repeater has simply been installed in place of the ICOM RP-2000 DV repeater with one exception. The north antenna used by 730 is now using the 5425 duplexer and repeater. 5425 DV south antenna is disconnected.

The reason for this is to test the quality of the north antenna stack and feeder cable for any damage and cause of crackle. If tests prove these to be good it will be down to the Tait 730 repeater and duplexer as being the cause of the problems. 5425 has its power supply from the battery backed 730 DC system.

Mt Climie 730 has simply had a 1.875 MHz shift down the band to 5425 (-600 kHz shift)

### **395 and the Weather station**

395 FM repeater has been plagued with crackle and noise from time to time.

Sources of QRM suggested were:

- 1) The MESH Net grid antennas that had been temporarily installed on site.
- 2) Faulty co-share ES7, ES41 and ES150 Repeaters.
- 3) The fault affecting 730.
- 4) The newly installed weather station.

A signal generator was taken on site and set-up to simulate a weaker station operating on 395.

The following was found with one additional noise source 5) identified.

- 1) MESH grid and wiring removed from site and not the cause.
- 2) ES41 and ES7 cause HISS noise on 730 and 5425 when keyed up. Intermittently ES41 would trigger 730 when keyed up during windy conditions. ES Maintenance Contractor advised. At a recent site visit the contractor found water flowing out of ES150 antenna coax cable. This is the antenna that failed less than two years ago in December 2014 from weather damage. The exact same antenna type was put back into service and is leaking water. ES41 and ES7 also causes HSS noise on 395. The antenna on ES150 has been removed from service but still on the ES band mast. Mast shake tests did not relieve anything loose. A faulty antenna in the near field will still generate noise as described above.

3) If the duplexer is damaged and has bad internal joints Inter-Modulation produces will be generated causing crackle and false triggering. The duplexer has been removed from Climie as described above.

4) The weather station moving mechanical anemometer was possibly causing static. This was proven NOT to be the case. The weather station only needed to be power reset. This is the second time in one week so there is some other fault and not causing QRN. Weather station upgrading and installation on the south 395 pole will continue.

5) The additional noise source found was the metal trig marker "Climie No. 2" This has metal pipe and flanges in two places. When moved by the wind at the top vanes severe crackle was heard on 395 and would also cause crackle on 730. The pipes have been tapped up with rubber tape and secured with plastic cable ties. GEODETIC is the owner and I have made contact with them to see what can be done for a permanent fix.

73, John ZL2TWS

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And another email sent on 17 June:

## **Mt Climie Weather Station Online**

Yesterday 16th June John ZL2TWS and Mike ZL2NSA went to Mt. Climie to reinstate the temperature and humidity sensor on the weather station.

Check this link via [z12vh.org/nz/news](http://z12vh.org/nz/news) page link.

<http://www.harvestalarms.com/w.cgi?hsn=11398&tabs=1>