



ZL2VH Newsletter – February 2025

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President's Report

I expect that you are pleased that the warmer weather has finally arrived, and all those cold and wet weather fronts appeared to have stopped. I hope that you all had a good Christmas/New Year break, and if back at work ease yourself into the year.

A couple of trips to Climie were cancelled over this period mainly. Due to the weather being unsuitable or non-availability of people due to family commitments which is understandable. The next planned trip regardless of the weather is on Thursday 6 February 2025 at 9:00 am. It is expected to diagnose the 395 antenna fault, check the Meshtastic device and attempt to get the 10 GHz Beacon up and running.

The Clubrooms are back open every Friday night at 7:30 pm for those wishing to attend. As we now have a lock box on the outside of the rooms if you wish access to the yard then contact me to have your mobile number added to gain access to the yard.

Repeater Report

Repeater: Status

Climie KiwiSDR	On Air
10 m Beacon (28.229 MHz)	On Air
3 cm Beacon (10368.275 MHz)	Off Air - pending reinstallation on GNS pole.
1292 (23 cm)	On Air.
D-Star 5425, 860	5425/860 On Air.
730	On Air.
395 (6 m)	Off Air. Investigation on 6 February 2025 to assess where the issue is. Suspected antenna failure.

Jock White Field Day (JWFD) 2025

Jock White Field Day 22/23 February 2025, the caravan is registered and warranted. To get out in the public domain to display we are still here; it is intended to operate from public spaces within Upper Hutt.

As the day doesn't start until 3:00 pm on Saturday, an additional trip to Climie has been pencilled in for the 22nd. This would be an opportunity to address outside hut maintenance and any other jobs identified from the visit on the 6th.

Over the coming club nights, based upon interest then we can decide to operate on one day or both days. Express your thoughts at the Friday nights.

EME Newsletter (Backspace/backspace to have this on the same page)

Latest EME Newsletter for December 2024:

<https://eme.radio/images/newsletter/pdf/2024-12-vol-53-07.pdf>

Mount Climie maintenance day - 15 December 2024

ZL2UFI, ZL4NT, ZL2BRG, ZL3LAB, ZL2UP and ZL2TWS attended a maintenance day. The following list of items were completed:

1) HF mains power noise filter fitted to reduce SDR input QRN from the 730 SR-250C PSU. ZL2BRG supplied a box with in-line Schaffner 230 VAC two pole filter inside. The IEC plug for the SR-250C has additional RF cable chokes on the outgoing cable to the IEC plug.

2) SWR and Power checks on 730 repeater.

Water is evident at cable connector and corrosion on centre pin soldered connection. (see picture)

Power out of 730 to duplexer is 39 W.

Power to antenna feeder is 25 W and return is 3.5W (SWR 2.2:1)

Water corrosion from centre coax discoloured solder.

Braid has not discoloured yet and water looks to be from the centre of the coax only.

Water was also laying on the Teflon washer when the connector was removed.

Power output from 730 used to be 45 Watts (name plate is 50 W) and now down to 39 Watts. 730 power output is set using a mechanical trimmer pot and analogue circuits. It is assumed now that 730 is 22-year-old that this has setting drift. Duplexer loss is still around -1.9 dB to -2 dB based on 39 W in and 25 W out.



730 has very little use however Branch 63 is committed to its continued operation and for now 730 continues to work well at the lower power and with water in the coax.

Members, please advise Trustees of any further or noticeable deterioration.

3) 1292 SWR and power checks.

Output from the 1292 TX is 8 Watts. Previously this was 15 Watts.
Feeder is 6 Watts and SWR is 1.4:1. (Previously 12 Watts to the antenna)

4) Meshtastic repeater installed on old GNS pole (South-3)

TX at 22 dBm/160 mW into a 5.8 dBi omni antenna. Emission is 250 kHz LoRa CSS, centred on 918.875 MHz. Long Range Technology is known as LoRa, which uses the Chirp Spreading Spectrum Modulation (CSS)

5) 5425 and 860 Transmitters have CTCSS tone added (177.3 Hz), and CTCSS changed to avoid a clash with the 53.950 repeater CTCSS tone.

CTCSS is required on the input only to activate the FM function of either 5425 or 860. CTCSS was also added (177.3 Hz) on the transmitter FM carriers so that users can mute DV modulation, operating an FM only transceiver.

6) Bait boxes refreshed baits. One box had evidence of recent activity.

7) 395 (53.950 MHz) MK2 Repeater with 151.4 Hz CTCSS tone on transmit signals installed. MK1 Repeater removed for a health check.

MK2 CTCSS Repeater requires an Anderson power pole plug wired at next visit.

23 cm Band Changes

ZL2BRG and ZL2TWS to discuss the future of 1292 since after WRC 2023 the 23 cm band is expected to change for amateur use from 1 January 2025, but not in New Zealand as yet.

Here are the updates that could be found. We expect RSM will decide eventually what is to occur in New Zealand, perhaps after consulting Australia.

This from AMSAT-UK:

On 27 March 2024, Belgium's regulator the BIPT published draft restrictions on amateur radio operation in the 23 cm (1240-1300 MHz) band. Belgium is believed to be the first country to propose restrictions on 23 cm band operation following WRC-23 [ITU-R Recommendation M.2164-0](#)

The new restrictions include:

Class A (equiv UK Full, USA Extra) – size of band reduced from 60 MHz to 8.24 MHz. EME (but not satellite uplink) is permitted 1260-1262 MHz, and the antenna elevation must always be more than 15° above the horizon and the transmission power is limited to 50 W EIRP. If the elevation is above 55° above the horizon, the power is increased to 500 watts EIRP.

Class B (equiv UK Intermediate, USA General) – 1296-1300 MHz only

Class C (equiv UK Foundation, USA Technician) – No access (unchanged)

The public consultation runs until 28 April 2025.

This from RSGB:

The WRC-23 results, known as the 'final acts', take effect from 1 January 2025, although implementation is expected to take longer and vary between countries/regions.

The list of final acts are found here:

https://www.itu.int/dms_pub/itu-r/opb/act/R-ACT-WRC.16-2024-PDF-E.pdf

Bob Atkins is a worldwide authority on EME and microwave equipment along with antenna and transverter building.

He is predicting that 2025 to 2026 is the year of changes.

https://bobatkins.com/radio/WRC23_23cm_1298_EME.html

<https://bobatkins.com/radio/>

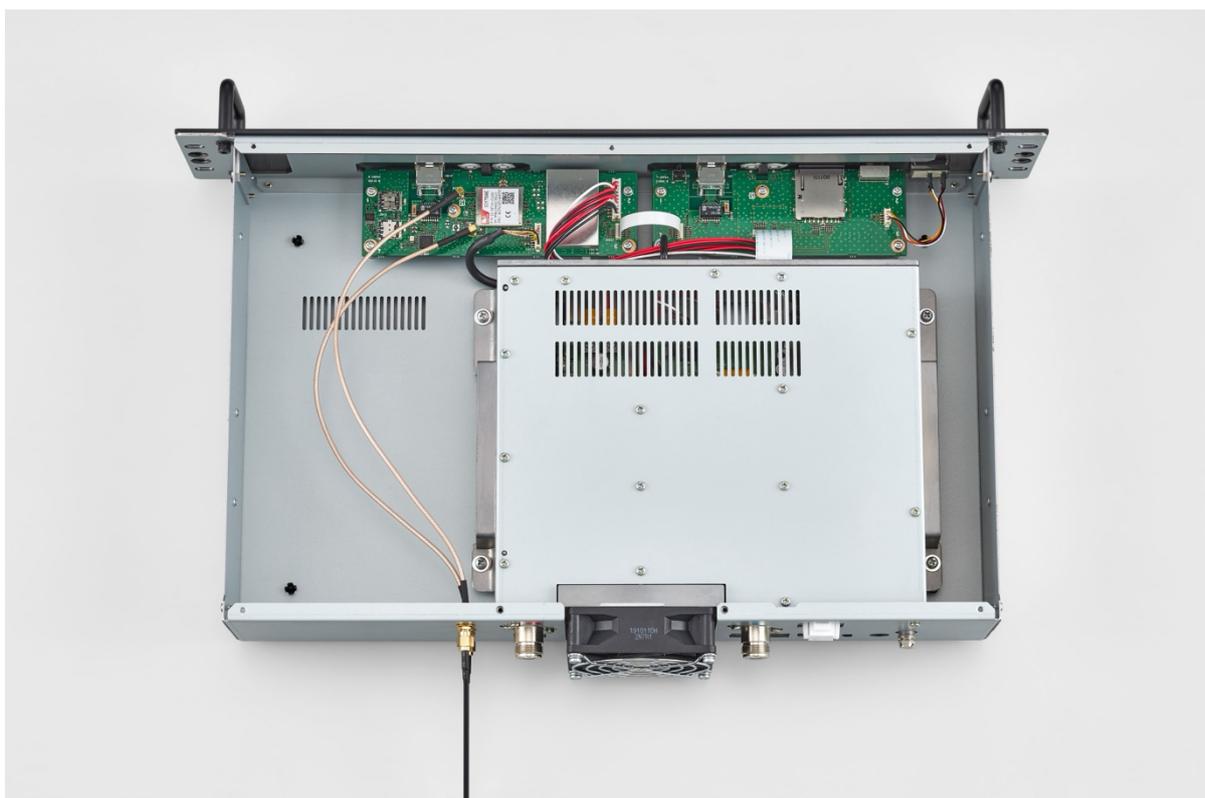
Bob says 1 January 2026 is the day he believes the changes will be mandatory. Meetings, working groups and so on start in February and continue throughout 2025.

This URL has the latest info from December 2024.

<https://www.iaru-r1.org/2024/the-23cm-band-rnss-story-continues-within-the-european-cept-region/>

Inside the new D-STAR Repeaters

Some people have asked what's inside the new D-STAR Repeaters, and are they like to the old ones based on two mobile transceivers linked together. This picture inside the new repeaters (taken from the web) is what they contain, as we don't wish to open them and void any warranty.



The left green circuit board above is the LTE board which is not installed/required at Mt Climie. So, it appears these third-generation repeaters are better built. A new firmware V1.23 has been released, and this will be

installed on the next available visit. This is easily done via the SD Card in each repeater.