

Branch 63 NZART - 730 Repeater history. 1973 to 2025

By John M. Wysocki ZL2TWS November 2025.

The FM VHF repeater originally known as, Channel A, and using a 700 kHz offset, went live on the 10th of March 1973. The original repeater hardware was based on the “Climie Transceiver Project” built by Branch 63 members. (Break-In August 1973 Pages 194-207 by Fred ZL2AMJ)

The repeater project took two years of conception, negotiation, planning, designing, constructing, and testing. 230V underground power supply was installed to the hut for Branch 63 exclusive use. TX was 145.600 MHz with RX on 146.300 MHz with 7 Watts power output to the TX antenna feeder cable. The antenna was in two parts with the RX at the top and TX at the bottom of the pole. Each antenna used were 2 x ½ wave length in phase collinear elements. (3dB gain) A Trap filter was used between the RX and TX before the antenna. (QST March 1970 Pages 42 to 46)

After the installation an improved TX filter was required.

Different antenna and Duplexer were discussed and decided that there was no great advantage making any further changes as the repeater was working to the design specification.

In November 1974 the channel was renamed from Channel A to Channel C

The repeater was often simply referred to as “Climie”

As reported in Break-In June 1979, new features were added:

- 1) S-Meter beep after 3 seconds.
- 2) No input delay time.
- 3) Tail drops after 3.5 seconds.

Comments from users were that the changes were favourable and that the repeater performance had improved.

A new replacement for the rechannelled repeater is being built by Richard ZL2TQF.

This eventually became an STSP repeater from my recollection.

Channel A was then used by Masterton branch who went through a restoration of their repeater. (Break-In October 1979)

Channel A through to Channel G were the allocations from 1974 to 1980. After 1980 wise decisions were made by NZART to move all existing repeaters to between 146 MHz and 148 MHz.

The band above 146 MHz was under international attack and NZ needed to move quickly to avoid not having that band, as is the case in many countries today.

January / February 1979 Break-In proposed the frequency changes to the following:

Channel A pair 145.500 / 146.200 MHz (Masterton)

Channel B pair 145.525 / 146.225 MHz (Kapiti)

Channel C pair 145.600 / 146.300 MHz (Climie)

Channel D pair 145.650 / 146.350 MHz Blenheim)

Channel E pair 145.700 / 146.400 MHz (Lower Hutt)[The reason why 700 is still a negative offset]

Channel F pair 145.750 / 146.475 MHz (Hawkins Hill)

Channel G pair 145.800 / 146.500 MHz (Motueka)

Repeater receive on the high side. User TX +700 kHz.

Also found in the archives:

January 1975: 28 MHz ZL2MHF beacon on Mt. Climie on air running ERP of 5 Watts Horizontal.

June 1979: 52.51 MHz ZL2MHF beacon on Mt. Climie on air with an ERP of 2 Watts Horizontal.

At the 19th Feb 1980 Branch 63 Committee meeting Jamie ZL2NN confirmed he had placed an order with Tait for a new VHF Repeater for Mt. Climie. Delivery date was expected in late March 1980. Branch 63 had hosted the NZART conference in 1979 and decided on a Tait commercially made repeater. Jamie ZL2NN applied modifications for amateur service in May 1980 and continued repeater testing.

FMWG Report - The implementation plan for two metre repeater frequency change was approved by the NZ Post Office in January 1981. (This Plan is detailed in March Break-In 1981 page 30)
One of the first repeaters to be converted to 600 kHz split and the new frequencies will be the Upper Hutt machine on Mt. Climie. Upper Hutt Branch hope to have this done by March 7th 1981.

The Tait repeater was a T266 RX / T267 TX 25 Watt series using 25 kHz channel spacing and +/-5 kHz dev. This repeater was due to go into service on the new 147.300 MHz frequency with user transmit of +600 kHz around March 1981, one year after Branch 63 took delivery.

The T266 / T267 remained in service for 22 years until being replaced by a second hand T800 II Series 2 programmable 50 Watt repeater using 25 kHz channel spacing and +/-5 kHz deviation.

The Mount Climie south hut was opened to share with Wellington Regional Council hosting their CD repeaters in 1993. An LDF-450 feeder cable was dug under ground so that the 730 four dipole antenna stack could be connected to the 730 repeater now housed in the south hut.
The T800 II repeater was installed into the south hut around January 2003.

During the years 730 has suffered from QRM and crackle and various antenna and duplexer replacements that were finally tracked down in March 2018 after more antenna damage. No earthing of the antenna pole was the cause. Rain static and charged particles in the cloud covered Mount Climie would discharge into the dipoles and ground via the repeater duplexer. This was fixed in September 2019 with RF earth stakes driven at the base of the antenna. There has been no degradation to the antenna since.

It was decided, after many days of testing, that the T800 II repeater be moved to the North hut with a short 8 metre feeder cable near the antenna stack.

The earth loop between the north and south huts had not helped with the repeater performance being 30 metres separated.

Rodent damage was also a factor with the old 730 equipment rack allowing rodent damage to take place. Subsequently the duplexer suffered damage and was also found to have poor solder connections with it failing in June 2016. All issues were resolve after moving 730 back to it's original north hut.

15th February 2020 a new HiTec brand twin dipole stack was installed replacing the traditional four dipole stack. The reports from users living in valleys and beneath Mount Climie was that the signal had increased for them. The change of ERP lobe has shifted to a lower angle radiation pattern more suited to where club membership mostly used 730.

This antenna failed but not caused by previous issues rather resulting from poor quality of the dipole combiner from the HiTec manufacturer. After four years in service the SWR was Unacceptable and those antenna have been removed for repair. A new combiner has been made and dipoles are ready to go back to Climie.

The T800 II failed on the 6th May 2025 after the power block died. A replacement power block was purchased from ebay and 730 was back on air using 50 watts.

The service spare 25 watt SlimLine repeater was in service during the outage and during the occasional break down since 2003 when the Slimline was purchased. The PA had also failed due to a bad solder joint in 2017. We borrowed a spare PA in 2017 to keep 730 running at 50 watts while using a single dipole. This single dipole is in use since May 2025 while the twin dipole stack is being repaired. The T800 II rack has a faulty cooling fan control circuit that noises up the receiver making 730 deaf with the fan connected. Now that the PA has been repaired a 24/7 cooling fan has been connected.

The T800 II has given 99% trusted service since 2003. The repeater was not new when Branch 63 received it with a most probable manufacture date around 1999 and is now 25 years old. Keeping with our trust in "Tait Tough" Branch 63 purchased a new TB7300 in November 2025. 730 can now have remote IP access for diagnostic service, and continued operation for the next 25 years or more.