



ZL2VH Newsletter – November 2017

President's Report

The weather is now definitely on a good track for summer this year. During October the club managed to provide marshals and the caravan for a car race at the far end of the Wainui Coast Road.

This raised some welcome funds for the club and allowed John ZL2TWS to prove the STSP repeater, happy to say it worked very well.

While our members were enjoying themselves in the tropics of Wainui, (*Yeah, Right !! – Ed!*), Simon ZL2BRG and myself were braving the elements at the Climie repeater site, 5 degrees outside the hut and a lot less in the wind. It must have been the first time in many years that the hut heater had been switched on (going by the smell and smoke).

Myself, John and David ZL2DRM assisted the Hutt community radio with the removal of old antenna at the previous site in Maungaraki, very nice view from up there.

There is not much coming up in November, but I intend to have an *End of Year BBQ* at the club in December (none of those manky old P&S or Mad Butcher pre cooked bulk sausages.....)

73's and good DX
Mike ZL2NSA

Repeater Update

Status Updates

3cm Beacon Off Air.

On the last site visit I noticed that the Trimble GPSDO was not disciplining the 10MHz reference. The Beacon rack module has been removed for repair. The opportunity will be taken to update the VK4GHZ controller firmware and to change the CW ID frequency.

1292 23cm On Air

DSTAR WiFi Link Recommissioned.

Back at the end of April the WIFI link connecting the ZL2VH Dstar Gateway to its repeater stack at Branch 63's Repeater Site at Mt Climie failed, Investigation revealed a dead Ubiquiti M5 powerbeam at the Gateway end of the link, along with badly deteriorated cat6 cable. The powerbeam was duly replaced along with its associated cat6 connecting cable.

The unit was reconfigured but connection could not be made to the Climie end of the link. Investigation revealed that the problem was that the Ubiquiti M5 at Climie needed its firmware updating along with the selection of a suitable wifi channel. Also the opportunity was taken to replace the cat6 cable at the Climie site of the link.

860

Bit Error Rate (BER) testing has been completed on both 5425 and 860. Test RF signal used on 5425 is 120 mW and 860 is 200 mW.

Average BER is between 0 to 8 bits over a 3 minute test period. Performance of both the D-Star repeaters is the same as one year ago. This testing is only possible since the WiFi link has been repaired at Climie.

The weak RF signal is received by the DV repeaters and sent to the ZL2VH server returning to a remote monitor consisting of a blue Internet Labs DV Dongle and DV tool software.

The DVSi AMBE 2000 chip (inside the blue DV Dongle) has a BER reporting feature that was removed from the later DVSi 3000 chip.
http://www.dvdongle.com/DV_

730

Sunday 29th October Mike ZL2NSA and John ZL2TWS found a fault in the 730 dipole stack antenna. It appears that one of the "T" piece combiners has failed.

The identical spare set of dipoles at the club rooms can be set-up on the spare T800 slimline repeater and spare duplexer.

The same tests will be repeated at the club rooms to determine if the spare dipole set can be put at Climie over the summer months. A spare commercial grade folded dipole donated by Gerry ZL2TDN has been fitted to the north pole for a test period.

After a week or two testing, the 730 repeater will be tested on a length of underground cable between the north and south huts to prove the ongoing reliability and possible replacement. This is the LDF-450 feeder that has intermittent jacket leakage detected during a sheath integrity test some months ago.

Performance of 730 will be different due to the antenna gain reducing from +8dB in some directions to 0 (zero) dB omni directional from the test dipole.

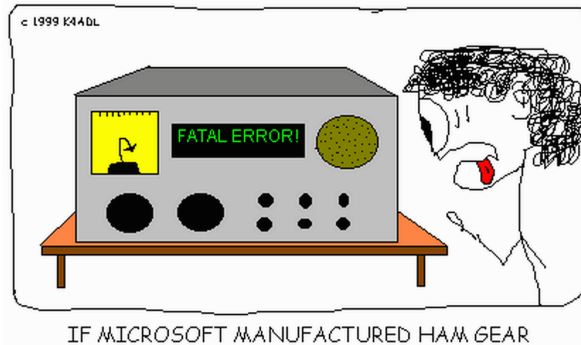
Club members are encouraged to get on 730 often and have home station to home station QSO's using low power setting.

John ZL2TWS will make regular low power test transmissions at various times to check performance.

395 6M

In good working condition running at 70 watts. Anti-Kurchunker mute has been disabled for the DX season as some VK's were found to randomly key up checking for an opening last year.

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.



AREC Report

Triumph Car Club Sprint

Sunday 15th October 2017

A few months ago, we heard that the Triumph Car Club was considering running a sprint event on Coast Road, Wainuiomata, and that it was likely that we would get a request to provide communications.

Less than two weeks out from the event, I got the call, and so I went to the site for a quick reconnoitre. From the outset it was obvious that simplex wasn't viable. The course started in a steep sided valley, took a dog-leg as the valley ended and then carried on along Coast Road, parallel to the beach.

At the dog leg in the road there was a convenient hill (a grassy knoll), which I thought would be a good site for the Short Term Special Purpose (STSP) repeater, so I went home and consulted Google Earth to get some idea of sight lines and signal paths. The maps looked good with only the start, and the very end being slightly obscured by terrain. It was that night that I circulated the Branch to get volunteers for the event. I also requested that Branch 18 publicise the event to it's members as well. I had a real concern that less than two weeks was cutting things a bit fine to get volunteers. As it was, I had no difficulty getting volunteers, with 6 people from Br63 and 1 from Br18.

On Thursday, 3 days prior to the event, John ZL2TWS, Eric ZL2SET, and I went out to the site to carry out some tests. We placed the repeater partly up the grassy knoll, and checked signal strengths at various points along the course. All appeared ok, so after that it was a matter of e-mailing our participants with a few notes as to our reporting times and what gear to bring.

The organisers wanted us on site at 07:45, so some of us needed to be there at 07:15 to deploy the repeater. John Wysocki, Robin Pringle and I got there first and set about getting things installed. Wouldn't you know it, at 7:20 a cold front came through, with cold winds and chilling rain, but we had no choice but to carry on. We got the repeater on site, and went back start to see else had arrived. I (*we all –Ed!*) felt miserable at this stage, soaking wet, cold, and with boots full of water. After a briefing from the organiser, we set ourselves up along the course and went about our business. There was some confusion to begin with because the guy with whom I had been dealing did not appoint himself as Clerk of the Course, but had decided to compete. This confusion as to who was actually Clerk of the Course was quickly resolved.

Once things got underway, the day went pretty much as expected. The Car Club conducted the event the same way as we were familiar with at Wallaceville. Only one competitor had an "off", from which he walked away. His car was left in the ditch where it landed, and was recovered after the event. During the day, the weather cleared, which gave everybody a chance to dry out and warm up.

Once the competition was over, the repeater, fire extinguishers, red flags and deck chairs were quickly gathered up, and then it was off to the Wainuiomata Golf Club for speeches and beverages.

Thanks to John ZL2TWS, Robin ZL1RIP, Peiter ZL4PB, Brian ZL2CHV, Justin ZL2UGL, Eric ZL2SET, and Gavin ZL2ACT.

Robin's photos, including those of the repeater in place, John ZL2TWS on the radio, and the crashed car being recovered on the road below, follow, along with a photo of the STSP repeater itself.



STSP repeater position



From John ZL2TWS

(In response to my comment that BER is normally expressed as $[a \times 10^n]$, or 'a' BITS in 10^n - Ed.)

Robin AA4RC from Internet Labs (Manufacturer of the DV Dongle) told me that it was an accumulation of errors over a period of time that go from a random range of 0-150 on the left and after a 3 minute period (DV Dongle time out time) it averages the instantaneous BER on the left to display on the total of significant bits right.

So for a few seconds during the 3 minute transmission it could be 25/2 or 65/4 and then if it remains at 0/4 then the final count is 4. In the case of 5425 and 860 the random BER is jumping all over the place and settles often to be 0/8 at the end of the transmission.

Yes in the real world BER is expressed as 8×10^{-9} or similar but I have no idea how the software from the DVSi AMBE 2020 decoder was designed to work.

I suspect as an RSSI value of some sort and Robin AA4RC was able to extract it to use with his DV Dongle desktop software.

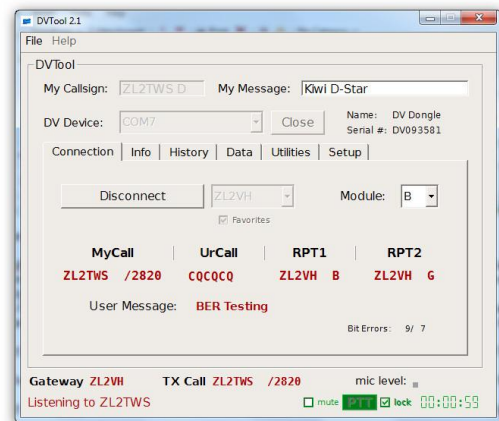
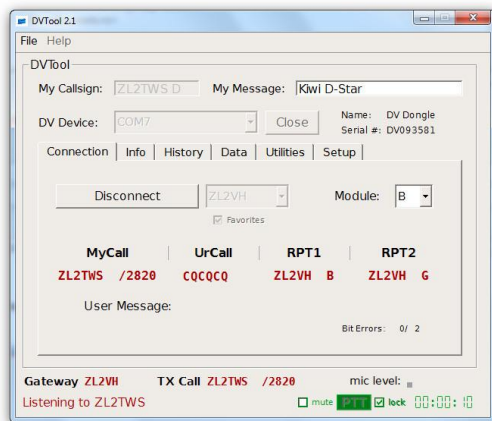
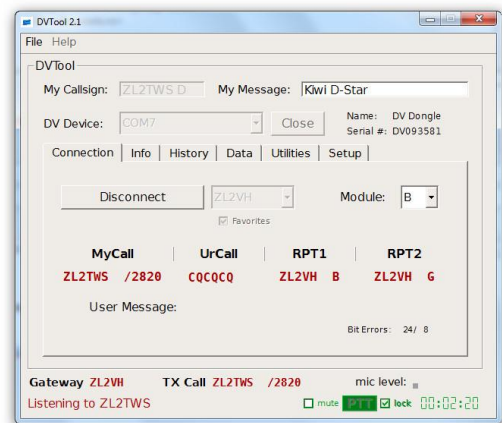
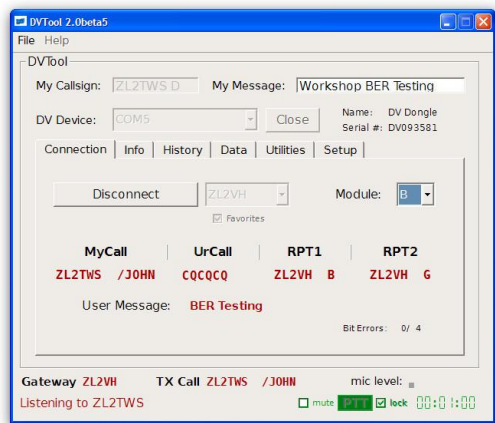
Note that the DVSi AMBE 3000 does not have this feature and was removed from the chip by DVSi.

Attached pictures to help my explanation.

Notice BER on the lower right of the picture and how the number on the right accumulates over time.

Check green RX timer on the bottom right and you can see that 8 is the highest value reached.

Usually 8 is achieved after about 2 minutes with a noisy poor input signal into the repeater.



73 and good DV, John ZL2TWS

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