

## **Repeater Notes for PARC AGM Thursday January 14 2010**

### **Repeater Site**

This year I have again circulated these notes prior to the AGM due to changes to the repeater station at Bryn Gwyn. This year a considerable amount of club funds and members' sweat has been invested so it only seems fair to explain the reasoning to all members.

The relationship with the new owner is fine and I have kept him updated on what we have done. As reported last year, if we maintained the building then we would have free rental but would pay for electricity used. Despite my offering, no payment has been requested although Alan has indicated he will put a meter on our equipment which seems only fair.

Thanks to Hugh G0BSZ, Dave GW8GLO and Terry GW0EZY we have accomplished a lot of the work.

Regarding the building, Hugh and Dave have installed a new door and frame complete with new locks. Terry and I replaced the broken catenary with some rather splendid stainless steel stranded wire. (Thanks Terry). The repairs to the eaves of the building are on-going.

Due to the necessity of more frequent visits by members using their own vehicles, the Treasurer agreed to pay mileage to those providing transport to the site.

### **Aerials**

On 5 June last year, we had a lightning strike at the site which took out the receive aerial for GB3PW and closed down the repeater site. On 1 July I used a spare hi-band aerial to give us a reduced service on 2m. Soon after, we went to the Aberystwyth and District Amateur Radio Society's sale. After relating the above tale of woe, Ray Ricketts offered us a dual-band co-linear as a donation to GB3PW. (Thanks Ray.)

Once summer had arrived we visited the site to do the above work and Terry and I installed the aerial at about 60' to be used as the transmit aerial. The aerial we used previously at 90' for transmit became the receive aerial for PW. This still gave us a separation of 30' to ensure there was no de-sense to the repeater. Coverage was as good if not a shade better.

### **Repeater Equipment**

#### **GB3CW**

As some of you may remember, due to a lack of channels in 1979, we were allocated RB6 which was the same as GB3CR (near Mold). Initially there was no great problem until GB3CR moved site and became very strong in the north and east Powys. We put up with this for some years, but eventually, I got really fed up with the situation and asked RSGB/ETCC for a change of frequency. I offered 3 channels which I felt suitable and after some initial reluctance, it was agreed we would ask OFCOM for RB4. This was applied for on 30 April 2009. Much to my astonishment the NOV arrived dated 11 June 2009! Not bad going as it had to be approved by MOD as well. The repeater QSY'd on 14 June 2009. The repeater is currently (4 January) out of service due to the fitting of the new logic (see below) and a general overhaul. Weather permitting it will be back on site soonest.

**P.T.O**

## **GB3PW**

For some years we had been looking for a replacement repeater as the Nova had been quite unreliable until Dave "breathed his magic." Even so, technically the repeater did not meet the 'half channel' spec agreed in 2003 by RSGB/OFCOM to allow 12.5 kHz channels which almost doubled the numbers of repeaters on 2 metres, and finally, the power consumption was rather excessive.

By luck, Dave spotted Tait 800 series II hi-band vhf repeaters on the Internet early in June and this was the first time in years that anything decent for vhf had been offered for sale. On uhf, commercial repeaters are fairly common (note the Tait running GB3CW) but not vhf. After some discussion with the committee it was agreed we would purchase one for £499.00 programmed on R7 and with ctcss 103.5 Hz. I would like to thank Jeff for his very generous donation which has helped to make this possible.

Initially, Dave had a few problems finding his way around until I managed to get the circuit diagrams from the supplier. Then it was upwards and onwards! (Thanks Dave, for the many hours you have put into this project, building the logic and control equipment etc.) It seemed sensible to replace the logic as CW/PW had never sent their QRA locator. We have stuck with the G1SLE logic as it has been so reliable and again, it seemed sensible to replace the logic in GB3CW. The logic pcb came from Richard G3VZG as originally it was intended to use the same logic in GB3LH (we ordered 3 pcbs) although they went down a different route so only 2 were used, hence it proves "never throw anything away!" Thanks Richard.

The performance of the new repeater is very good; the receiver is particularly sensitive. We have noticed a slight drop in power out recently but this seems to be due to the inclement weather affecting the cavity filters. However, I shall check the power out in the next site visit. Bear in mind that I have to keep the power within that permitted in my NOV: 10 dbW eirp at the aerial.

### **The 3 cm beacon GB3PYS on 2320.925 MHz**

As reported for last AGM I have removed the beacon and it has been donated, with your Committee's approval, to the Telford and District Amateur Radio Society's beacon site. This is located at their club house at Little Wenlock and will be co-sited with the other beacons and GB3TF the 70cm voice repeater.

### **The future**

Thanks to Evan GW7UNV, we will be able to really tidy the racking as he has found us a cabinet with a glass door to replace our old "lightning struck" one!

There is still on-going building work, and if materials for the cavity filters become available, we will attempt to go single aerial working for GB3PW. Interestingly, I have combined both transmitters into the new dual-bander at 60' with no ill effects. Theoretically the same could be done with the inputs but, currently GB3CW receive is still at 120'.

The aerial being used for receive on PW is a tri-bander: 70cm, 2m and 6m. Yes 6m! So if anyone is inclined to take it on, who knows a 6m repeater to fill in the rather large gap in Mid-Wales. See [www.ukrepeater.net/channels6m.htm](http://www.ukrepeater.net/channels6m.htm)

Look forward to seeing you all (and hearing even more ideas) at the AGM.

Dave GW4NQJ.