

GB3WL - A new repeater for Wythall

Since the Christmas Contest of 2012, it has been very gratifying to see and hear so many Wythall Radio Club members on air using their radios on 145.225MHz FM. The Activity Ladder has obviously played a part in that but, nonetheless, it is great to hear so many members actually dusting off their radios and *using* them!

However I have been aware for some time that lots of our members struggle to get a signal to each other on a simplex frequency like 145.225MHz and though many of us have improved our antenna systems to try to get over the problems, sometimes the sheer geography of living somewhere, for example, the “wrong” side of Gorcott Hill means that joining in club “on-air” activities is often a difficult and frustrating exercise.

There isn't really any repeater currently available that covers everyone and which we would not feel guilty “tying up” for club contacts, so the thought occurred to me that what would be a good solution would be to have our own Wythall repeater!

The main problems with running a repeater are a) getting a good site, b) supplying mains electricity to power the box, c) maintenance & d) cost.

Wythall House is a pretty good location VHF/UHF-wise and since we have mains electricity in the shack, we wouldn't have a problem getting power to any repeater we installed there, if allowed to do so.

With the likes of Barry M0DGQ & Dave G3YXM in the club, we could easily maintain such a device and we are relatively well-off funds-wise to be able to at least kick off such a project.

2m was never going to be an option for a repeater as the channels are too full around the Midlands and it would simply not even be considered by the authorities. Also we use 2m from the shack quite a lot and we wouldn't want anything interfering with that. However 70cms? This is a band that the RSGB is keen to promote use of, so that we do not lose it, so looked a good choice.

I spoke with Noel G8NDT who is a local repeater “guru” (he keeps GB3GB on 70cms on Barr Beacon and GB3VI on 6m in Birmingham, now sadly off air!) and also with some of the other repeater



through our regular contacts we know Jake G1YFF over in Cambridge. Jake is a repeater builder and an absolute wizard with repeater logic circuitry. (see board below). As it happened, some of Noel's repeater equipment was already with Jake awaiting a possible future project, so Noel

readily agreed to donate one of his Tait T800 base stations to the project. That meant that we had most of the hardware already, we just needed the “logic”. Jake was happy to do that for us at a cut-down price and so GB3WL was born as a finished repeater, at least from the hardware side of things.

Of course, we now needed somewhere to actually put it! From the outset we wanted to install it in our club shack, but that presented issues that involved my having to negotiate with Wythall House to ensure they were happy to let us have something switched on 24/7 and that it would not cause them any issues. Since repeaters are generally low power devices that thankfully was not too big a hurdle.

One that could have raised its head though was the House Car Park! Many normal 1.6MHz split repeaters have suffered severe issues with Car Key fobs which operate around 433 MHz. That last thing we wanted was our new shiny repeater locking everyone out of their BMW's! This is why we applied for a wide-split repeater, which moves the frequencies outside of where the key fobs operate. Just imagine the irate folk we might have had if we hadn't considered that!

For an antenna, we initially looked at putting something new up, whether we

keepers and the general consensus was that a 70cms box on the south side of Birmingham would fill in some useful holes in coverage across the wider West Midlands, as well as give our members what they needed, more reliable coverage between ourselves. Another advantage was that more of us could use those handhelds which we all own, that we only seem to get out at Rally times (Vic M0AEJ excepted of course! J) I put together a simple proposal and a short presentation to give at the January 2014 Committee meeting and was pleasantly surprised that those present were *overwhelmingly* in favour and so I was duly “elected”(!) Project Manager to see if we could get it off the ground.

Noel G8NDT was a fantastic source of encouragement and knowledge in those early days & so it was that one Friday in January we together submitted an online proposal to the RSGB for a repeater – the callsign GB3WL (standing for Wythall) was available, so we plumped for that one.

Initially Mike G4VPD acted as Repeater Keeper just so we could get the application in, but we needed someone with a technical bent to be involved, so I approached Dave G3YXM who thankfully seemed to be very interested in the technical side of the project and he readily agreed to become the Repeater Keeper.

This meant that his callsign would eventually have the Notice of Variation (NoV) attached to it so he is the “last word” in anything to do with GB3WL. (You have been warned!) Noel, Dave and I are all active on 160m, as many of you know, and



should put it on the House or the tower, but then we realised there was a solution staring us in the face! The tri-band “white-stick” collinear on the House chimney was already there and was not being used on 432MHz at all! In fact it is hardly used for anything other than 2m FM and that usually for Activity Ladder reasons. So we thought, why not use the 70cms portion of that for the repeater, with a duplexer so it could still be used on 2m as well. Sometimes the KISS (Keep It Simple, Stupid!) approach has much to commend it! At the time of writing, the project is awaiting the final approval from the House Management, which I am led to believe is a formality, and also clearance from Ofcom and the MoD to allow us to switch the repeater on.

When that day arrives, I would like Dave G3YXM as Repeater Keeper to do a ceremonial “switching on” and maybe try to make a splash and invite some local dignitaries etc. to make a media event of our new arrival. Why? Well, since the box is well protected being underground, you never know the use it might have in the event of a civil emergency of some kind. I hope you have enjoyed reading this short history of GB3WL. We are not even on air yet and already I get the feeling from the members that this is one of the most exciting projects the club has undertaken in recent years. I for one, hope it will encourage people to come on air even more and also help to promote all that is good about Wythall Radio Club to our near neighbours and those driving through the area who will doubtless pop up to use the box.

My thanks especially to the Project Team, Dave G3YXM, Noel G8NDT & Jake G1YFF, all of who have been totally “un-amateur” but instead thoroughly professional throughout and without whom, we would have no repeater at all!

Chris G7DDN
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PS There are other developments to this story, so it may not be finished just yet – watch this space for what could be done in the future with GB3WL and whether it may yet have a “big brother”!!