

MB6IWL - What is it and should I care?

A passing interest

Most of you will be aware that I have had a passing interest in the digital mode known as D-STAR for some time. How D-STAR works and how to use the mode are not really the subject of this article but I am giving a talk on D-STAR basics this coming October for those who are interested in learning the basics.

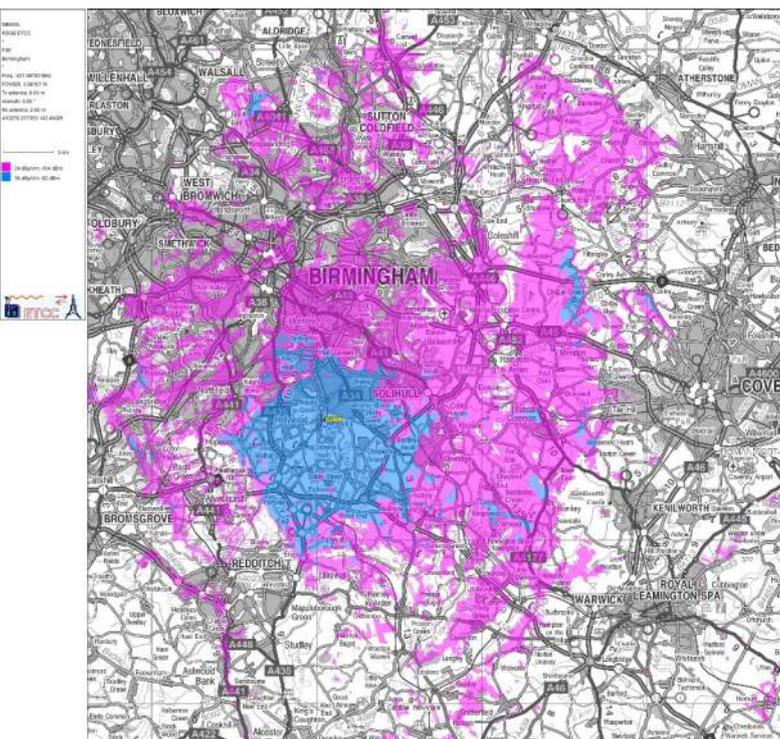
The purpose of this piece is to give you some of the background into what MB6IWL is and how it came about. Of necessity I will refer to some aspects of D-STAR protocols and will try to explain in simple language as I go along.

Just another mode

D-STAR is just another Amateur Radio mode. It is very similar to FM in that it uses very narrow FM (6.25kHz) to, in effect, "carry" the digital signal. In its early days, it was seen as being tied in to one manufacturer although it is actually an open standard. Anyone can build D-STAR equipment.

As time has gone by, hams have experimented with the protocol. Both software and hardware projects have appeared to enhance the mode. The most exciting developments have taken place since 2012 with the advent of open reflector systems and even homebrew D-STAR radios which can be built from scratch.

Connectivity is everything!



While it is perfectly normal and ok to use D-STAR just like any other mode, (simplex or via repeaters) D-STAR really comes alive when it is connected to the Internet. Since the signal is itself digital, it is easy to send those signals (and other accompanying data) onto the web and manipulate it to your hearts content.

What MB6IWL is then, is a gateway, a portal if you like, to enable Wythall members (and any others passing by!) a way in to the Internet from their D-STAR radios.

A one way street

MB6IWL is a simplex gateway so it is strictly a one-way street. You can either go into the internet, or you can listen to what is coming out of the gateway.

It is not a repeater in the normal sense of the word in that it doesn't relay your signal locally.

What it does do, is allow your little D-STAR signal to access the full world of D-STAR by getting you out of just Wythall and into the wider world.

The world is your lobster!

Once you are into the gateway, you can route your signals anywhere in the world that you wish, all controlled from your D-STAR radio.

Fancy a chat with your mate in VK? Just tell your signal to go there! Fancy listening to the

Dayton Hamvention repeaters? Just link up to them! Have a friend in Peru? Just tap in his callsign and route to him! The world is indeed your oyster!

At last, a use for Hand-helds! Perhaps the most fun that

most hams are seeming to have with D-STAR is with hand-helds. Just about everyone owns one, but if we are honest, they don't get the use their cost demands. Too many of us have them in the drawer, awaiting the next Wythall Rally!



But with a D-STAR HT, you can talk worldwide from the comfort of your own home! And with MB6IWL on your doorstep, you have a local ready-made way to do that at no cost to you!

It started with a dongle...

The genesis for MB6IWL began when I was first getting into the mode - I became aware of something called Digital Voice Access Point (DVAP) Dongles. I bought one from last year's National Hamfest.

These clever devices plug into a USB port on your PC and act as your own personal D-STAR gateway. In other words, it is just like MB6IWL but restricts use to you personally and to a range of about 100 metres (extendable with a better antenna of course).

These DVAPs allow you therefore to have your very own personal private simplex gateway to the internet, freeing you from being dependent on having a D-STAR repeater near you. I enjoy using mine as I wander around the house!

An added bonus, since they are so portable, is that wherever you go, as long as you take your computer and DVAP Dongle, you can have D-STAR access. I have successfully used my DVAP on holiday in both Norfolk and France. Mike G4VPD has used one in Spain.

One step beyond...

As far as general public use in concerned, the issues with the DVAP are its restricted RF coverage and it being a private hot-spot. It was then that I got to wondering if it was possible to create a public hotspot for Wythall. (continued on P8>>>>>)

Some research turned up various kits that could be constructed called GMSK modems. These connect to the Data port socket on any modern mobile rig and with the help of free software, effectively turn them into D-STAR gateways.

I purchased a kit from Fred at Dutch*Star and got to work. To cut a long story short, the kit worked, though I tried a few different radios out to get the best signal...

Getting MB6IWL on the air...

While doing this, I applied for an NoV for a public hotspot and was given MB6IWL within 24 hours! This is because it has to be attended and it is on 70cms.

I could apply for an unattended gateway but was told it would take probably 4 years on 70cms if I got it at all, and that 2m was a better bet, but that most frequencies are already taken! Best go with the first option then!

There have been a few teething troubles, involving connections from the GMSK board to the radio, software issues, hard wired vs wifi internet etc, but I have finally settled on the following configuration...

An old Tait PMR mobile does the RF bit - it is connected to my dual band white stick on the roof via a duplexer so I can still use 2m at the same time on the same antenna.

The Dutch*Star board does the GMSK part - a Raspberry Pi computer connects the GMSK board to the internet, and basically all I do is switch it on in the morning and turn it off at night!

The first Wythall "Repeater"

So Wythall has it's first ever repeater (albeit simplex and D-STAR) while we await clearance for our next big project in GB3WL.

Gobbledygook!

And if you have read this and have no idea what I've been talking about, then please come along this October to my presentation on D-STAR for Dummies! It's time you joined in the fun!

Chris G7DDN