

## Operating GB3YT

### **Input on 23cm**

- 1276MHz Analogue requires an FM video modulated carrier at 625line PAL. Sound is on a sub-carrier frequency of 6MHz. Transmitting on this frequency will open the repeater immediately and usually well before a picture is fully visible. Antenna polarisation is horizontal. This input occasionally suffers from local drone interference unfortunately.
- 1276MHz Digital requires the DVB-S encoded signal to be set at 4Mss with an FEC of 1/2. Antenna wants to be horizontally polarised.

### **Input on 70cm**

- 437MHz Digital DVB-S signal vertically polarised, encoded at 2Mss with an FEC of 1/2.

### **Input on 6cm**

- 5665MHz Analogue input requires an FM video modulated carrier at 625line PAL. Sound is on a sub-carrier frequency of 6.5MHz. Transmitting on this frequency will open the receiver after around 2 seconds of signal and usually well before a picture is visible. Antenna polarisation is vertical. This frequency occasionally suffers from local drone interference unfortunately. The main advantage of 6cm for locals, is that transmitters are very cheap and readily available!

When more than one valid signal is being received, then the transmit picture will switch to a quad screen showing what is being received on all four inputs. Only the sound from valid input signals will be transmitted on the output. Received audio is transmitted on the left channel only, talkback is on the right channel only.

Talkback is on 144.750MHz with a CTCSS of 118.8Hz. This audio is only re-transmitted through the repeater when any valid signal from the main four inputs shown above is active.

## Receiving GB3YT

You need to obtain a suitable Free To Air (FTA) digital satellite box. Sky boxes can not normally be configured for use unfortunately. As the LNB input on the receiver covers the 23cms band there is no need for a converter (or an LNB!), just connect the aerial straight into the F socket at the rear of the receiver. Don't forget that the aerial will be a short-circuit to the dc volts sent up to power the LNB, so switch it off in the firmware menu of the receiver first, or use a DC isolator. If possible, set the LNB offset frequency to 10000. This will let you enter the desired frequency with a 1 in front i.e. 1316 MHz would be entered as 11316. FEC should be auto (or 1/2) and the symbol rate is 4Ms/s. Some receivers will work with an LNB offset frequency of 0Hz which means you can enter the exact frequency you need i.e. 1316MHz. Another point of note is that satellite receivers are inherently deaf which means you may need a 23cm pre-amp if you are some distance from the repeater. Those more local will have a stronger signal and may not need one. Sensitivity of most receivers are usually in the order of only -65dbm (126uV) at best, and selectivity is normally very wide so you may also need a filter centred on 1316MHz to stop spurious signals de-sensing the receiver. You can of course monitor through the BATC website allowing for around 40 seconds latency delay of the output signal.