

mmdvmcal

mmdvmcal procedure:

To use `pistar-mmdvmcal` to calculate TXoffset

A. Preliminaries:- Set DMR rig to desired hotspot frequency, CC1 Slot1 TG9. Call it F_d (in Hz) In Pistar set TXoffset and RXoffset to zero, otherwise they'll screw up the calculation.

B. connect to your pi-star setup with ssh.

C. Type:- `sudo pistar-mmdvmcal`"

D. Tap E key & enter TX frequency of your hotspot in Hz

F. Tap key. Hotspot generates a dmr tone.

G. Tap Hotspot transmits tone. You should hear tone on rig.

H. Repeat presses on f key until tone disappears. Note this frequency as f .

I. Repeat presses on F key until tone reappears, keep going until it disappears again. Note this frequency as F .

J. Q to quit.

The calculation:

You have 3 frequencies, F_d , f and F to play with. f is the lower edge of the hotspot transmission and F is the upper edge of the hotspot transmission. Assuming the transmission is symmetrical around its peak value, the average of f & F gives the peak frequency of the hotspot transmission ie where it is transmitting.

So the hotspot is TXing at freq. $\{(F+f)/2\}$ Hz

TXoffset is the difference between rig and hotspot TX frequencies.

$$\text{TXoffset} = Fd - \{(F+f)/2\}$$

TXoffset & RXoffset don't have to be the same, but for starters set both to the calculated value. If ber isn't good, vary RXoffset only until it is.