

North West Linking Group. Mt Crawney Link Hub Details and Rules

- No other repeater linking is to be used with this repeater hub arrangement as it will interfere with the operation of the linking hub (if other linking is in place or required, contact Northwest link group techs for arrangements)
- Only 2-meter repeaters to be connected
- This system is intended to be a permanent link to the 2-meter repeater, even though each site can individually connect or disconnect. It can be advantageous to install a connect/disconnect unit to the remote site link radio in case of system issues, interference or system lockup
- New groups that want to join the repeater hub must contact the North West linking group for approval to link their repeater
- No RPT tails, repeater idents, delays, voice overs etc to be transmitted over the link. Link won't have a tail or delay either. The local 2-meter transmitter will handle the idents and tails. Idents must be capable of having voice coming thru with the ident (preferable) or ident ceases when link operates. This is to allow for all of the different ident timings and repeater configurations. Repeater transmit tail to be no longer than 1.5 seconds or no shorter than .5 second (pref 1.0 secs). This is to allow transmission and transmit timers to reset, and not cause some sites to get stuck on continuous transmit and then time out due to tails being too long, cause some sites had short tails and a user quickly restarts transmission
- No off air, or off site linking. Link radio to be at the actual 2-meter repeater site that is to be connected. This is to minimise delays and keep audio quality high
- It is preferable to use commercial radio repeater or mobile for the link (and the 2m repeater for that matter) as they have a better duty cycle, audio is better, better RF filtering and rejection, and they have the appropriate connection points within the radio for the audio in and out. Mic input and speaker out is not appropriate points due to the de and pre-emphasis, and the filtering often not suited at these points
- 9 element or bigger beam antenna is preferred for the link antenna. Keep TX power as low as practical. Rx level is aimed at -80 dbm for best compromise between signal to noise and signal being too high and causing interference with other systems locally or remote. The link hub will work satisfactory down to -105dbm and still have good signal to noise. Most sites will not have to use more than 5 watts (1 watt or less will not require licencing)
- All repeaters and link transmitters ARE to have transmit time out timers, minimum 3 minutes, maximum 5 minutes, pref 4 mins
- Link radio used must have good frequency stability, accurately aligned, and low synthesiser noise and jitter. Not having these qualities will cause poor audio quality, and issues with the subtone control.
- Suitable radios include late model Tait, Simoco, Motorola, Spectra, etc
- Tech Specs: Analogue FM voice only. Half duplex mode, Channel Bandwidth 25khz, audio response flat, audio bandwidth 50hz to 3khz with sub tone band filtered out on link RX (RX audio out 300hz to 3khz) remote TX sub tone_____, Remote RX sub tone_____ Tx freq_____, RX Freq_____
- If everyone keeps to these rules, this system allows for expansion, even to other linking hubs and systems as large as NSW have worked with very little issue