

Understanding static vs dynamic talk groups

A static talk group is just that static meaning its hanging around in your hotspot or repeater waiting for traffic, a dynamic talk group is one you activate by kerchunking (PTT) activate, on BrandMeister and some other networks these dynamic also called auto statics have a hold timer, on BrandMeister that is 15 mins. This means the server will send that talk group traffic to your repeater or hotspot for 15 mins and if there is no activity on your part the dynamic hold it will drop that talk group regardless if the talk group is busy or not so if you want to keep it connected as a dynamic you need to key it up (PTT activate) every 15 mins or whatever network timer is set to in order to continue to monitor that talk group.

Static talk groups are stored on the DMR server in a private list either added by your hotspot or repeater using the pi-star talk group manager API and are there all the time waiting for traffic, so if you have 3100 Nationwide as a static your repeater or hotspot will pass any and all traffic from that talk group anytime, so be careful what you add as static, if it's a busy talk group it will hold you repeater or hotspot hostage, and you won't be able to use that busy time slot. For this reason a lot of repeater owners have very busy talk groups like 91, 93, 3100 and others blocked because the repeater would be in constant TX heavy-duty cycle and burn up the repeater, especially with all the quick keying going on their repeater wouldn't have a chance to come up for air.

Ham Radio built DMR radios have a feature that allows you to monitor everything on a repeater or hotspot regardless of your radio's current channel setting, this is called "digital monitor" sometimes call promiscuous mode. This is like open squelch on a busy shared commercial repeater frequency with multiple users all with different pl tones if you hit the monitor key you will hear everyone (digital monitor enabled) so regardless of channel selection if the frequency is in your radio you will hear all of it. The same rules apply to DMR repeaters and hotspots, if the radio receives traffic it will pass it regardless.

When digital monitor is disabled (closed) the radio will not pass any unknown or unlisted traffic it receives from the device, but the device will still be sending that traffic either from a dynamic or static talk group and while it's transmitting you're hotspot will be tied up. This is helpful if you're on a repeater and not interested in receiving calls from everyone but only the ones you want, Rx receive group lists stored in the radio are used for this type monitoring, you store only the talk groups you want to hear and all the others will be ignored by your radio, keep in mind if the repeater is active your radio will still be receiving the traffic the green receive LED will be lit indicating traffic you just won't hear it on your radio, for this reason most people run their radio in digital monitor to ensure the repeater is not in use.

Adding static talk groups to the DMR server you're subscribed too allows you to monitor many talk groups all at the same time, for example I run about 12 static talk groups in my BM acct stored on the DMR server so if any of them become active with traffic the server will send that matching talk group to my hotspot, this is useful for finding activity kind of like scanning, its first come first sent to your device only one talk group can be sent at a time.

Here's where it gets tricky lets say you have several DMR networks (using DMR Gateway) or other digital modes set in your hotspot like TGIF, AmComm or you're running D-Star or P-25 it's still first come first sent but it can be an issue having so many modes and networks all fighting for access to your device. By default, the device has a 20-second hold time in between network and modes for example if

I'm on TGIF having a QSO and there is a gap of 20 seconds between key ups the device will assume you're done with TGIF and start looking for traffic elsewhere like from BrandMeister or D-Star, whatever you have in the device. Having all these modes and networks in your device is manageable, just be mindful of that hold time of 20 seconds so if you're talking and need to go get a cup of coffee while you're in the kitchen your hotspot may find a QSO on another network or mode and pull you from that QSO. Also note this hold time applies to changing modes or networks, for example if you're on TGIF and you want to switch to AmComm you need to wait that 20 seconds for the hotspot hold time to expire so you can switch to the other mode or network and once there that 20 hold time applies.