

## Digital Repeater Operations in Helena Part 2

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In our rush last month to get the article out to press, we might have been less clear on some items that we should have been. Our thanks to Julie for the opportunity to clear up some subjects and introduce some new ones.

There has been some confusion on this so just to make sure we all understand: any brand of DMR tier 2 capable portable and mobile radio can operate on any DMR repeater. Brands of portable and mobile DMR radios include Motorola, Hytera, Tytera, Kydera, Tera, Tait, Vertex Standard, Simoco, and Sepura, to name but a few. Tier 2 means conventional digital repeater operations. Ham Radio DMR is Tier 2. Tier 3 is trunked digital operations. Tier 1 is the European equivalent to our Family Radio Service.

Helena is not the only town in Montana with a DMR repeater connected to the BrandMeister network. In Hamilton, providing coverage to most of the Bitterroot Valley, is a UHF DMR repeater sponsored by Jim KG6MQE. The Hamilton hams are active on the same talk groups that we are and with BrandMeister networking, communications between Hamilton and Helena is easy and seamless.

Continuing the talk group discussion from last month:

**Static talk groups** are always on. If there is activity on that talk group, it will be transmitted on its assigned time slot on all repeaters so configured for that talk group. For example, if there is activity on the Montana Statewide talk group on the Hamilton repeater, that activity will be transmitted on four Helena area repeaters too. Static talk group activity is similar to an analog FM repeater in that it is always there, not requiring any action from you. In Helena, Montana Statewide, MPRG1, MPRG2, and Hytera USA are configured as static talk groups. All other talk groups are dynamic.

**Dynamic talk groups** are active only if a user on a given repeater bumps/kerchunks that talk group on their repeater. Then, it is active for only 15 minutes starting from the end of the last local transmission. For example, USA Wide 3100 is probably active right now as you read this. But, you won't hear any of that activity until you select USA Wide on your radio and briefly press PTT. If you do nothing but monitor this USA Wide activity, it will time out in 15 minutes, requiring another bump from you to continue monitoring. If you participate in the conversation on USA Wide, then that talk group will remain active on your repeater until 15 minutes after your last transmission.

It might help to understand talk group based communications if you saw a list of talk groups. <http://www.dmr-montana.net> then click on Master Talk Group List. There are talk groups for countries, languages, all 50 states, all 10 call areas, and for specific ham radio clubs. For the Helena area, we have MPRG1 and MPRG2, which allows for two different Helena area groups of hams to simultaneously have separate conversations.

Talk group scanning allows you to monitor for traffic from several talk groups, as determined by a scan list that you create and program into your radio. Scanning lets you hear as much or as little as you want while another ham monitoring the same repeater hears only what they want because their scan list contains different talk groups than your scan list.

Up to now, this discussion about talk groups implies that a group of hams can participate in a conversation. This is called Group Call. In DMR, there is also Private Call, which is a single radio to only one other radio conversation. DMR also supports text messaging. Its clunky, because its like the old days when we texted on cell phone keypads, but it works.

BrandMeister has an on-line, in your web browser talk group scanner, called Hoseline, giving you the capability to scan multiple talk groups and listen to their audio without a radio. We have created an easy to remember shortcut that gets you to Hoseline with it already scanning the three main Helena-area talk groups. <http://hoseline.wr7hln.org>. There is room to enter up to 5 talk group numbers so you could add, for example, USA Wide by entering 3100 in place of one of the zeros then click on Apply.

Yes, there is a lot to learn about DMR just to get started but you have now been introduced to the most important subjects. At last count, we have 8 hams in Helena active on DMR including some CCARC members. Reach out to them with your questions and to solicit their opinions. We have lots of information on our web site to help you get started so please spend some time there too. <http://www.dmr-montana.net>