

MAC PASS REPEATER GROUP

Amateur Repeater Operations in Southwest and Western

Montana

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Winter is all but over in Montana and we have already visited a couple of sites. First, shortly after getting the Lookout Pass link radio installed, the University Mountain repeater began experiencing severe desense (30db). We made the trip to University Mountain last Saturday in order to determine the cause, but as Murphy would have it, the receiver desense was gone. We were hitting University just fine from MacDonald Pass as we drove that way and knew that it was gone. Upon arriving at the site, we visually inspected all the cables and connections on the ground, proved with use of the service monitor that the problem was not present, and scratched our heads. We did a complete tune-up of the repeater and all performance specs were great. We did rotate the power control pot up and down several times in case it was a possible issue. All connectors in the shelter were tight, SWR was fine on the TX antenna. So the next step was to visit the top of the tower. Bill (K7MT) visually checked the 7/8s heliax the entire way up, and then checked the antenna mounts. All were tight. HOWEVER, upon checking the jumper connections from the 7/8s to the various antennas, he discovered that both the antenna connector and the jumper connector to the 7/8s on the UHF Transmit antenna were both very loose. We suspect this was where the problem was coming from and with cold weather could cause the center pins to suck back just enough to cause problems. Both connectors were tightened and sealed again. So far no indication of the problem has returned. All other antennas and performance of the 2-meter repeater and APRS was checked and found to be fine.

The next site visited was Boulder Hill. We have installed a new Microflex 24-port waveguide panel on one of the old waveguide exits on the building with boots for the existing cables installed. We also installed a new shelf unit as found in our other sites and have cleaned up the installation. A local noxious weed control Company has sprayed the site with a serious (agent orange) weed killer and a new gate was installed, along with some minor fence repair. Unfortunately we discovered that our 9-year old back-up batteries for the repeater and APRS were bad (one of them) and we have removed it and new batteries have been purchased for replacement next week. In the process however, we discovered that the APRS TNC's CMOS battery had gone dead and thus lost it's programming so the BOULDR APRS node is now off and will hopefully be re-installed next week.

And finally, after many, many years in the making, the Badger Pass site will soon come alive and be fed into the Echolink system. Four 130-watt solar panels have been purchased and a solar panel charge controller will soon be ordered. We are planning about 600 Amps of storage battery with the panels delivering about 20+ amps per full sun hour. We are building a 40-watt Mitrek into a very low power consumption repeater to test out for the year. It will have a basic controller and likely an ARR Preamp, the whole package drawing less than 250 milliamps per hour, 6 amps a day. The DB-408 is already installed with 7/8s heliax and we hope to install the panels and repeater by mid

summer. If the system works well, we are considering a 40-watt MSF-5000 on a DC power supply to replace the Mitrek. Once this site is on and tied into the system, the original planned system will be completed. Watch for news on this in the next few months.

As for Echolink, the remote computers located at Toston and Boulder Hill have performed flawlessly over the last couple of years. We are confident enough in the software and the remote connection ability that we are planning the direct connection of a computer to the Mac Pass UHF versus the current RF link for Echolink. This will also be done this summer for a good amount of testing before winter road closure. No change will be noted to the end users.

No other projects slated for the other sites at this time. We are waiting on the new Kenwood TS-990S to hit the market and hopefully it will have a direct Ethernet connection and GOOD remote control software via Internet. We are still planning a remote HF base station for Toston once we find one without the need for a remote computer as well.

That's all for now!

Badger Pass: N45-12-51.5 W112-56-26.4 at 7,250 Feet Boulder Hill: N46-19-51.7 W112-6-16.4 at 6,160 Feet
Goldcreek: N46-32-12.2 W112-54-7.0 at 4,962 Feet Lookout Pass: N47-27-22.6 W115-38-58.4 at 6,060 Feet
MacDonald Pass: N46-35-40.7 W112-17-51.9 at 7,155 Feet North Hills: N46-46-12.4 W112-1-40.9 at 4,680 Feet
Toston: N46-7-0.8 W111-22-48.5 at 4,575 Feet University Mountain: N46-51-21.7 W113-55-18.0 at 5,366 Feet