

Hamgram

Newsletter of the Winona Amateur Radio Club, Inc. – May 2002
http://www.jarviscomputer.com/warc/hamgram/active_issues.php3

Meeting Notice

The May meeting of the Winona Amateur radio Club, Inc. will take place at the County Courthouse Annex Building conference room at 1900 on Thursday, May 16, 2002. In what promises to be a very interesting program, Skip Green, K7YOO, will give a presentation on Mobile HF operations.

Welcome to VHF DX

Part 1

By Matt, KFØQ

Last year I wrote a 2 part series about the 6-meter (50MHz) band. It took more way space to convey what six is all about than I originally realized. To that end, I will attempt to explain some of what goes on with the other VHF bands. To VHF + weak signal enthusiasts DX can be any contact beyond that of one's normal expectations. "DX" can be working a rare grid in a surrounding state, or suddenly hearing a station from a distant state or DX country appear on the band. Operating in "The World above 50Mhz" as it is known at the league¹ is a place where many folks have decided to spend most of their free time and effort. Not to discount any operating below 30MHz. Heck, that's where I got my feet wet too, but the VHF and higher bands really hold a great deal of interest – to some a life-long fascination with propagation modes and "pushing the envelope" beyond expectations of a station's capability.

To start out with, amateurs in North America are blessed with some pretty cool frequency allocations. The 6-meter band (50 to 53MHz) gives technician class ops the ability to work the world on VHF. Working all states on 50MHz is quite common, and as I found out lately working all lower 48 and even the entire 50 on 144MHz (yup... 2 Meters) has been done many times.² Just as with HF operating, many modes are available to us to work VHF and higher bands. Modes such as SSB, CW, FM, Video, HSCW³, WSJT⁴, provide many ways for us to experiment and enjoy the available spectrum. Speaking of spectrum, it is really amazing to think about all the bands from 6 meters (50MHz) through 2M, 1.25M, 70,33,23,9,6,3cm and higher bands available to us. When you think about it the entire HF spectrum in equivalent bandwidth from 160 meters through 30MHz is available just in the 70cm band alone (420-450MHz)! Obviously the portions of spectrum are meant to do entirely different things, but give it at least a thought.

I hope that I have held your interest at least to this point because I really wanted to use this page to promote my favorite VHF band – 222MHz. Most of you are pretty familiar with the upper portions of

¹ See "World above 50MHz" : <http://www.arrl.org/qst/worldabove/>

² With the use of moon-bounce or EME it is possible to work some VHF DX grids globally on bands such as 144, 222, and 432MHz.

³ HSCW high-speed cw – predecessors to WSJT . Proved that distant stations could work each other even during quiet band conditions. (Still quite common today). See:<http://www.nitehawk.com/rasmit/hsms-intro1.html>

⁴ WSJT – superior mode for meteor scatter communications. Invented by K1JT, has changed the scope of "workable" station distances without perceptible band enhancement. This is a digital mode known as FSK441 that uses computers at each station to decode ultra high-speed digital signals sent/received during short meteor bursts that occur almost every day. See:<http://www.vhfdx.de/wsjt/>

the 2-meter band and are aware of packet, space communications, and tropo enhancements that occur on 144Mhz. The 222 band, aka 1.25 meters has many of these uses but can be even better than 2 meters, with less interference, and seemingly better enhanced tropo propagation conditions. With a small antenna and a simple transverter some very respectable distances can be made on 222. Lack of commercial gear for the band however; has caused it to be underutilized. Some folks turn away because they may not be interested in using transverters to get on the band, but in my opinion it is well worth the effort. From the Winona area I have been able to work stations in IA, IL, MI, OH, SD, WI, and VE4 on 222Mhz. All of the contacts were with a transverter and either a 4 element Cushcraft, or a homebrew yagi. Hard for even me to believe that such a band at the top of the VHF spectrum⁵ can provide distant contacts like this. The bottom line is there is plenty of room for more stations on the 222 band. I have never been disappointed with contacts made on 222, and the band continues to amaze me with it's potential for VHF DX!

So why am I telling you this? If you believe my objective is to brag about my own superior station performance you are missing the point. To the contrary, I reside in probably one of the worst geographical locations for VHF DX work. The hills along both sides of the valley we live in shoot up about 300 feet above our house to the east and west. Yet, under these conditions I have still been able to work many states on 6 and 2 meters during moments of enhanced propagation. What I am attempting to convey is that if I can do it from here; anyone can do it! Sure bigger beam antennas, preamps and brick amplifiers can help, but sometimes getting on the air or even listening is all it takes to snag some VHF DX. What is the driving force for someone to spend so much time and effort? For me working VHF DX can be as satisfying as the HF variety. Sure some day you can say "hey, I worked 100+ grids⁶ on such and such a band. Being part of an "event" is what I find intriguing. Hearing or working stations during a meteor shower, AU event, or E-skip opening is like putting a book mark on a page in history. The rarity of some of the paths may never be repeated for years to come, and who knows if we will be operating or listening for the next opening!

Spring and summer can be some of the best times to explore the VHF and up bands. As we know inversion layers create tropospheric ducts and other enhanced paths of propagation. The weather mechanisms that generate inversions occur mainly in the summer months for our latitude. For this reason many of the VHF and up contests occur surrounding the summer months. I find the contests the best place to catch DX on VHF. After all if you hear someone else working a DX grid during one of these events you might be able to jump in and get a contact in your log too! The ARRL June VHF QSO party⁷ is the premier annual operating event where you can snag all kinds of VHF DX. Conditions vary from year to year, but with the number of stations available portable and rover stations participating there is always a new contact somewhere. With a little help from the web you can find available stations to make scheds with and learn more about VHF DX.⁸⁹ Next month I will go over the bands above 222, and other information about VHF and up. Before then I hope to hear some local stations for the upcoming event during the second weekend in June. Give it a try you might be surprised!

⁵ Frequencies above 220MHz are typically referred to UHF. Stricter definitions place 300MHz as the lower UHF limit.

⁶ Grids! Almost everyone on the VHF bands these days' collects grids. Each 1-degree north – south by 2 degrees east west rectangle comprises a grid in the maidenhead system. Other grid systems exist around the globe, but for HF and VHF contests and awards the maidenhead system is used. See: <http://www.arrl.org/locate/gridinfo.html>

⁷ Operate all bands 6 meters and above. Event runs from 1800 UTC Saturday June 8 until 0300 UTC Monday June 10. 2002 ARRL June VHF QSO Party Rules May 2002 QST pg 110, or: <http://www.arrl.org/contests/rules/2002/June-VHF.pdf>

⁸ The best place to get propagation info in real time is found at: <http://www.dxworld.com/144prop.html> many links here. (2-meter weak signal calling frequency 144.200 USB is the typical place to find active stations).

⁹ A great primer on VHF and up operating can be found at the KB0ZEV web page: <http://www.tcr.org/contests/>

Call for Volunteers: March of Dimes Walk around Winona

Call for Volunteers: March of Dimes Walk around Winona, May 18th, 8:00AM to 11:45AM. We are looking for 4 or 5 amateur radio operators to drive donated vans around in support of the walk. A great way to spend on warm Saturday morning! Contact James Jefferson KBØTHN via radio or e-mail <kb0thn@aprsworld.net> to sign up.

FOR SALE

FOR SALE

FOR SALE

Antennex Phantom 2-meter mobile antenna. NMO Mount. Low-profile (about 4" high, looks like a bean can painted black). Nice for local activity and ideal for driving into a low overhead such as a garage. \$ 25.00. See jerry, WAØX or phone 454-8395.

A thought about learning the Morse Code

By Les, KØBAD

I was listening to KØNY giving Morse Code lessons on 146.64 one evening last week and a thought came to me as Clare sent the same character about ten times in a row. I wondered, "Did the receiving station *write down* that same character ten times?" That's the secret, you know – writing the character down every time you hear it. In reality we don't "learn" the Morse Code at all. Rather, we build a *conditioned reflex* so that each time we hear a certain sound we write a certain letter. I say conditioned reflex, because there simply is not enough time to think about each letter and there is not enough time to decode each letter. The *writing down* must come automatically and with no thought. The way to build a conditioned reflex is through *repetition*, whether in this case it be in mixed letter groupings or in repetitions of a single letter. Don't simply listen and try to "understand" the sound of the letter. Write it down every time it is sent.

I was copying Morse Code at nearly 20 wpm when I went on active duty with the Navy. There I had to copy the code on a typewriter. I couldn't do it. I didn't "know" the code that way. Granted it didn't take me long to build expertise with a typewriter, but it did not come automatically. I had to build a new conditioned reflex.

So, if you want to become skilled at copying Morse Code, you have to do it with great frequency and when you do it, you have to write it down and not just listen. Copying "by ear" can come later, when you have already "learned" the code.

Winona's First Two-Meter repeater - WRØAIY

Winona's first 2-meter repeater was installed at the KAGE-FM tower site during 1976. Les Hittner, KØBAD, built the repeater. The RF deck was built out of a VHF marine Radio converted to amateur radio use. The repeater control logic was designed by Les and built entirely of TTL logic ICs (state of the art at that time). Les owned and operated the



Left: Dick, WAØMDD and Les, KØBAD keep the repeater vertical on the way up Garvin Heights Road.



Right: Unloading the repeater at the KAGE-FM tower site.

repeater until the mid 1980s at which time he donated the system to the Winona Amateur Radio Club. There has been an active 2-meter repeater in Winona since that time. The call

WRØAIY was replaced with the club call when the FCC discontinued special repeater callsigns.

Yes, I used to have dark hair – see pictures above. – ed.

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The ARRL Field Day exercise will be held on Saturday and Sunday, June 22-23.

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