Hamgram

October, 2016

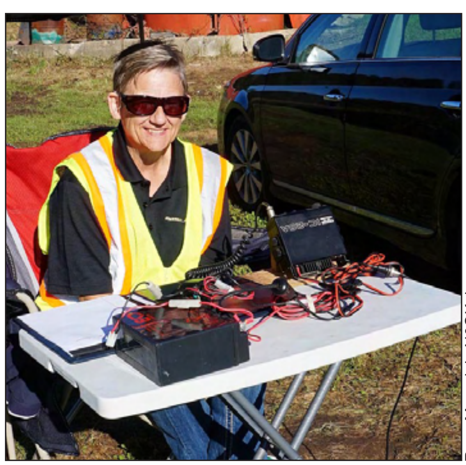
Winona Amateur Radio Club
Winona, Minnesota

Radio Rides The Ridges

Mike Bernatz, image

By Dan Goltz, WKØW

The unique geography of Southeast Minnesota and Southwest Wisconsin is ideal for bicycle riding, encompassing physical challenges with fantastic views, all on great secondary roads. The crisp temperatures, clear skies and vibrant colors of Autumn add excitement to bicycle touring, and members of the Winona Rotary Club recognize this. They run a superb tour, now in its fourth year, called Ride The Ridges, as a fun raiser and fund raiser. So you understand, Ride The Ridges is a bicycle tour, not a bicycle race. Even though many riders are very fast, many also enjoy the scenery and stop to sniff the flowers. As any veteran biker knows, "scenery" is an euphemism for ugly, steep hills. That's where Amateur Radio operators come in because hills and rural roads can mean accidents. WARC was approached by the Winona Rotary Club the first week of September to support communications for its annual ride, scheduled for the third weekend of September. Ride co-organizer Mike Bernatz apologized for the short notice, but indicated he was unaware what Amateur Radio had to offer in an event like this until he was tipped off to us by



Russ Marsolek, N0QK, image

one of his contacts in Rochester.This bike tour is an extensive undertaking. The Rotary Club spends the better part of a year organizing it. Its goal is to make it one of the best run, and safest of the bike tours in the area. It includes four routes of 18 miles, 43 miles, 64 miles and 106 miles for different levels of riders covering southern Winona County, and the northern Houston County. Bernatz suggested initially that our participation would be minimal. He thought we could help out a little where there were some empty spots. The Winona County SOAR group planned to assist with traffic control using its 800 MHz communications network. There were seven rest stops to be supplied and resupplied, signs and directional markers to be placed along the route and three SAG wagons to support the riders. 300 participants were expected. It became

See "Ride," page 3

Fusion machine adds voice to club

There's a new voice in town and it's ours. A brand-new Yaesu Fusion repeater is here and it's being prepped in anticipation the Minnesota Repeater Council will approve 444.600 as the output frequency for the Winona Amateur Radio Club's newest radio.

Led by Erik Brom, WBØNIU, a group has installed the machine, checked its software, tuned its duplexer and placed it in a rack at the club's Witoka site.

"I was reflecting on the enviable position we find ourselves in," said Brom. "We have three nice sites, available to us at no charge. Each of them has a good backup power system, and great antennas. At the Rooster Ridge site we have our 146.835 repeater, at the KAGE site we have a dual band antenna, with two repeaters (soon again). That site has batteries plus a commercial generator. The Witoka site has one repeater on the air, with a dual band antenna at about 300 feet and a VHF antenna just below it. Two of the four repeaters are Fusion digital and synthesized, so they can instantly be programmed for any VHF or UHF frequency. Each repeater uses a duplexer, which has to be tuned to its specific frequency. The tuning procedure is not terribly complicated, but does require good test equipment. Fortunately, we have access to some very nice equipment. Our club has purchased three duplexers over the years, but we currently have six on hand! Three are currently in use, the one Paul mentioned will be in use soon (assuming we can tune it for our frequency pair), and two more that are tuned to 146.835 and 146.64, respectively. We also have a spare Motorola repeater which is programmed to 146.64, 146.835, as well as simplex 146.52 and 144.39. If one of our sites was suddenly destroyed, it wouldn't take us long to be back on the same frequency elsewhere."

"In addition to all this, we also have two large backup batteries, always kept fully charged, a remotely accessible HF station, and two APRS nodes (although the one on Rooster ridge is mostly not operational and needs some attention)."

Brom concludes: "Wow, what a great setup! With all of that, something always seems to need attention. Thanks to everyone who keeps them going."

Erik Brom, WB0NIU, makes connections for the club's second Yaesu Fusion repeater.

Dan Goltz, WK0W, left, and Syed Faruque, AC0VA, helped install the club's second Fusion repeater.

'What a great set-up"
-WB0NIU

"Ride," continued from page 1

Ride Co-chair Mike Bernatz, left, and Dan Goltz, WK0W, operated SAG 1 for the event.

obvious that if we were to be useful, more than a minimal presence would be needed. We met with Bernatz and the head of Winona County SOAR, Ray Sylvester. We identified the functions each group would be expected to perform. We identified those areas that each group could realistically cover. It was determined that the long routes were most in need of our support, since SOAR is unable cross county lines.

Our next step was to drive the route and determine what kind of radio coverage existed on the route. As we drove the route, our amateur team mapped what repeaters could be effectively used, where cell phone coverage existed, and determined that our 440 repeater at Witoka, and the La Crosse '97 repeater provided the best coverage for the largest parts of the course. We also identified one valley near New Hartford that had no radio coverage whatsoever. That valley was the location of a primary rest stop. We needed to find a way to get communications to that valley rest stop. We requested permission from the Riverland Amateur Radio Club of La Crosse to use its 97 repeater, which was granted. We requested permission to use 800 MHz radios from Winona County Emergency Management to be able to communicate with SOAR, which was granted. The week before the bike tour, we went to the New Hartford valley, and set up a cross band repeater at the top of the bluff, and sent a mobile unit into the valley to see if we could cross-band out of the valley to the rest of our network. After a couple of hours of experimentation, we found we could very successfully communicate with the rest stop area by cross banding 146.460 simplex to the 444.225 repeater. With the short notice we had, not to mention the number of other events taking place that weekend, finding radio operators was challenging.What we finally ended up with worked better that we had hoped for. Eight amateurs were available for at least part of the day.


Russ Marsolek, N0QK, image

Russ Marsolek, N0QK at net control on the ridge above New Hartford

Russ Marsolek, NØQK, set up net control on the ridge above New Hartford, with the cross band repeater, and radios for 444.225 and 146.970. He brought his trailer, a generator, a portable mast and VHF yagi for 146.970. He also had an 800 MHz radio to contact SOAR, and a cell phone with contact numbers. Mike Schmelzer, KEØJLC, assisted.

Erik Brom, WBØNIU worked tour headquarters at the SE. Minnesota Technical College, shadowing the tour coordinator. He had a dual band handheld, an 800 MHz radio to talk to SOAR and a cell phone with contact names and numbers.

Nancy Goltz, KAØPJM, manned the New Hartford rest area, using a VHF 25 watt mobile radio on 146.460 simplex.

John Kowalik, K2OPT, manned the Witoka rest stop using a dual band hand held.

Dan Goltz, WKØW, rode in SAG 1 with Bernatz. He had a dual band mobile radio, an 800 MHz radio, and cell phone with contact names and numbers.

Paul Degallier, ADØUU, rode in SAG 2 and had a dual band radio and cell phone with contact names and numbers

Dale Cohenour, KEØEKD, rode in SAG 3 and had a dual band radio and cell phone with contacts, names and numbers.

The SAG wagons needed to change their operating frequencies from 146.970, to 444.225, or 146.460 to be able to keep in touch with net control, depending where on the route they were located.

Our goal was to communicate effectively using whatever frequency or mode was needed, and we used every frequency and mode available at one time or another, including text messaging.

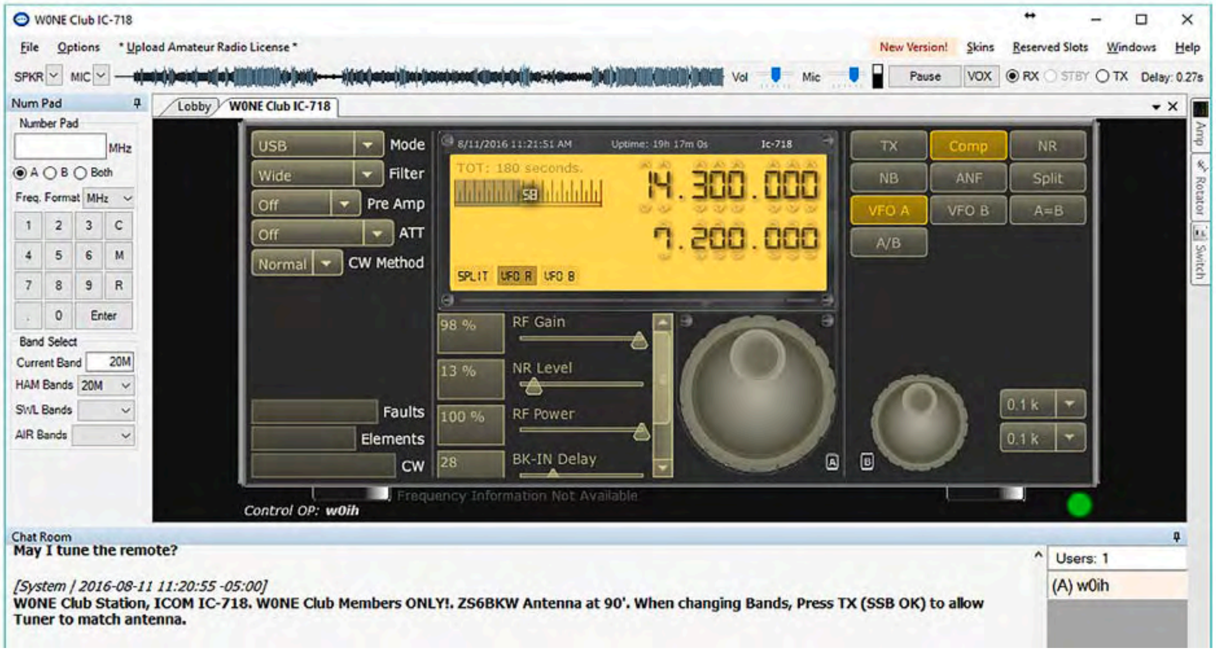
AD0UU met a cyclist who is a radio operator in the U.S. Army Signal Corp. He saw and heard us on our radios and said it was a pleasure to see how well we correctly used net procedures. He was impressed with our discipline.

Bernatz was very impressed. During the day he mentioned to me that he didn't know how they managed last year without us. "Before the day was over I was lobbying for the club to be on board for next year's ride," he said. "I did not understand how well the radios would work – or how much easier it was to try to manage the event with consistent communication over all the routes."

For the record, there were 278 riders and zero accidents. While there was no emergency to report via radio, the management of rest stop supplies, the coordination of closing down rest stops and moving supplies, and the direction of sag support kept the airwaves fairly busy all day long.

W0NE Club Remote HF Radio Access

By Mike Foerster, W0IH



Savor a cup of coffee, watch students hard at work on homework and work DX, all in the fragrant comfort of your favorite coffee house. Or, with the XYL driving, participate in a QSO party while speeding down the highway. You have, as a member of the Winona Amateur Radio Club, access to a nice HF radio with a super antenna.

The W0NE Club's High Frequency radio, the ICOM IC-718, is at the Witoka Tower site and is available for all W0NE club members to access if they choose. The rig is accessible using a PC (sorry, there is no support for MAC or Linux), an internet connection using RemoteHams.com and a mic/speakers or a headset. Any club member will be granted "Club" access and Transmit privileges for the rig use.

The antenna that is connected to the IC-718 is a ZS6BKW version of a G5RV at 90 feet high which allows the radio to receive and transmit on 80, 40, 20, 17, 15, and 10 meter amateur bands. There is a tuner that is connected directly to the radio that is setup for automatic mode, allowing you to move within the ham bands and using. You don't have to worry about the antenna match; it's taken care of automatically. The radio is always turned on, so once you have your connection made, the radio is instantly available; assuming that there isn't anyone else logged on that you would need to share with.

The club radio access is ideal for those that have their ham radio license, but don't have a rig at home yet. Or, if you have a rig at home, you can use it to test your own antenna setup. Some members have used it to check to check the bands conditions without having to make the trip to the basement to turn on their own rig. Considering that the antenna is at 90 feet, I find that it often receives signals on the 75 meter band better than the dipole my own full size dipole. Also, if you are a club member, but don't have your license yet, you can still access the club remote and listen on the ham bands. Keep in mind that you don't have to be at home to access the remote rig. You can access it as long as you have your PC with you and an internet connection. Even a slow internet connection (1MB/Sec) works surprisingly well.

Also, there is an Android app (for phone or tablet) for $10 that works wonderfully. You can work DX while on the road (let your XYL drive while you operate!) or from anywhere! The remote access uses a surprisingly small amount of data for the audio on your cell phone.

Keep in mind that you are operating with *your* license class (Not the W0NE Club license) and you must stay within the ham frequencies that are assigned to your operating class license.

Full instructions to get signed up for the Remote access are listed on the W0NE web site: *http://www.w0ne.org/woslash-ne-remote-station.html*

Currently the usage of the IC-718 HF radio is very light, and we would like to see it used more. The rig use is free as well as the downloads from RemoteHams.com, however, you are encouraged to make a donation to the RemoteHams.com project.

WARC Board Meeting

September 6, 2016, Watkins Hall, Winona State University

Present:
Board Members: Harro Hohenner, KG6RLM, Syed Faruque, AC0VA, Paul Schumacher, K0ZYV), Dan Goltz, WK0W, Les Hittner, K0BAD via Skype, Non Board Member: John Kowalik, K2OPT, Mike Foerster, W0IH.

Called to order by K0ZYV at around 7 PM.

Treasurer Report

Harro had discrepancy of $6 between bank statement and his record keeping. Harro could not figure out the reason of discrepancy. Board encouraged Harro to write it off and move on but he plans to figure it out for own satisfaction. Harro also had questions on rent to be paid to farmer on Rooster Ridge to maintain 835 APRS setup. Board asked Harro to talk to Lance/Erik and figure out the payment and pay as such.

Balance on 8/01/2016	$2232.29
Deposits: (dues)	$8.00
Total	$2240.29

Treasurer report was approved as presented.

Minutes

Minutes approved.

Committee Reports

Dan mentioned issues with 640 Repeater. We need to take to trip to 640 Repeater to check the phone line. 640 Repeater is fully functional.

Regarding 440 Repeater re-location, Dan would like to have the 440 Repeater in current place for upcoming Bike Tour. Dan then discussed issues facing 440 Repeater re-location. There are compelling reasons to place the repeater: on current Witoka site, there is very good coverage on the south site and to west of our area. This is the area we never had any coverage or any good coverage previously. Also, there is good coverage to LEC, has been also used there for SKYWARN very effectively. Down side is that nobody has access to all the neat features of digital mode. Dan brought up the idea of getting another 440 Repeater and place at 640 site, so both sites are covered with 440 Repeater. This will require another co-ordination with Minnesota Repeater Council for 440 Repeater at Witoka site. Board tried to figure out the location of old 440 Repeater that is not in use. A motion was then approved to ask our Trustee (Erik) to request a 440 Allocation for Witoka and keep the current 440 Allocation of 640 site. Board then discussed more on Allocation and placement of Repeaters. Mike brought up the issue of Remote Operation at 640 site. Paul stated it might be only transmitter coverage. Les provided some input to the discussion.

Paul had a copy of Loan agreement and Les will manage the funds. Paul will send a copy of the loan agreement to Paul.

Paul then brought up the issue of Storage. “We have a problem with storage” per Paul. Paul gave a status report on the storage space he was working on. That space is not workable anymore because of safety issues. Paul’s trailer has quite few stuff and space is becoming very tight. Dan and Paul talked about talking to Volkman if anything opened up there. Paul stated we can’t afford to rent a commercial storage unit. Mike mentioned the storage situation at Witoka site. Dan might have something coming August, 2017. Members talked about storing the poles and beams. Paul mentioned weather proof stuff could be left outside Witoka site. Mike suggested to pull old repeaters from Witoka site. Les mentioned there is large storage area in Law Enforcement Building at Garvin Heights. Les asked if we can have some access to this particular storage site. Dan replied that he will inquire. Dan also brought up the idea of building a small storage shed outside of Witoka site. Might not be big enough for some large stuff but enough for others. Board members preferred access to Garvin Height site as the site is accessible in Winter and has heat. Dan will explore the idea and contact Mike Peterson. Paul mentioned if the Garvin Heights Storage area does not work out, we might ask Mike Peterson to build a shed in Witoka Site. Mike mentioned if we could pull the generator out of Witoka site. Dan mentioned it is heavy and will need forklift to lift it up. Dan will talk Mike also regarding the generator. Board talked more about the generator removal.

Public Service

Dan Goltz, WK0W: I have been in touch with Ride the Ridges organizer Mike Bernatz and with Ray Sylvester of the Winona County SOAR team. These are the areas where amateur radio can best be used. There is a particular rest area near Nodine that is in a deep valley. No cell service, no 800 MHz service and no amateur repeater access. We will have to relay through a station at the top of the hill.

All of Houston County needs coverage. Winona County SOAR will not cross the border into Houston County.

Three SAG wagons. Mike was excited that we could put communications in their vans. Depending on where the wagons are at any given time, we may still not have good coms with them, but up on top we should have good coverage.

The SOAR van.

If we don’t have enough people to go around, we can use the emergency management 800 mHz handheld to talk to the SOAR teams or their com van.

This is a work in progress, but we can use more volunteers and equipment especially mag mount antennas and dual band VHF/UHF rigs.

Mike said things wind down around noon. They run a sweep and follow the last rider in. I was unclear if the sweep is one of the SAGs or if it is a different unit.

This is one of those events that it won’t matter if we use amateur radio, cell phones or 800 MHz ARMER communications as long as we get the message to the people that need it in a reliable and timely way.

Meeting was then adjourned.

Propagation and the smart Ham

I ain't got poor propagation… I just ain't workin' anything!

Apologies to Yogi Berra. Dang ol' Sol isn't producing, and in some respects Hams are not doing their part either. Propagation is bad and getting worse according to Carl Luetzelschwab, K9LA. Speaking at the W9DXCC conference in Schaumberg, Ill., Luetzelschwab showed model predictions of sun activity – and propagation – slipping through 2020. He said there's a possibility the sun's cycle could be as bad as the historic "Maunder" period of the 1700s when sun activity was as bad as ever recorded.

What's an operator to do, turn off the radio and take up basket weaving? Nope! Contesters and DXers plan to emphasize the basic rule of Amateur Radio: Listen. Luetzelschwab advises Hams to monitor PacketCluster, beacons, WSPRnet (*http://wsprnet.org/drupal/wsprnet/map*) PropNET (*http://propnet.org/index3rp.shtml*), DXMAPS (*www.dxmaps.com/spots/map.php*) and the Reverse Beacon Network.

Savvy operators are checking their low-band antennas and, if possible, having wires and aluminum for 160m. There may be activity from time-to-time on the higher bands so smart operators will check on-line propagation resources as well as go on the bands and listen, says Luetzelschwab. However, "40m is the new 20m," he adds.

Oct club meeting & Ginsu knives

Sunday evening many members of the Winona Amateur Radio Club tune to the 835 repeatger for the Winona Preparedness Net (WEP) to not only find out what's happening in the club but also to prepare for emergency communication. The stated purpose of the net is to practice net procedures and learn the principles of emergency communication and emergency preparedness. We'll talk about the net, its procedures and some "how-tos" at the next club meeting, 7 p.m. Thursday, Oct. 20, in the Winona County Office Building, 202 West Third St.

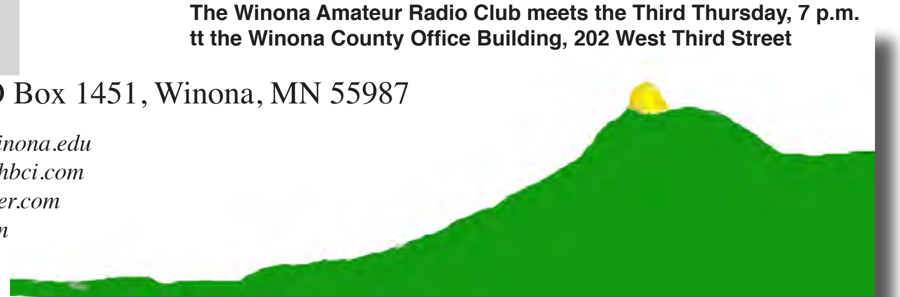
There's more! Matt Burt, KF0Q, will share good news, the First Place Multioperator Plaque for the 2016 Minnesota QSO Party for the club. A number of operators and their skills again brought glory to WARC.

There aren't Ginsu knives, but there is even more this month! (*said the announcer in his most urgent tone*). As part of the Winona Chamber of Commerce' 2016 Manufacturers & Technology Week Tours, there's a chance to visit Benchmark Electronics Sat. Oct. 29. Club members plan to visit Benchmark at 11 a.m. For those not able to make that time there will be tours at the Benchmark plant, 4245 Theurer Blvd., from 10 a.m. – 1 p.m.

Benchmark has been making successful products for Original Equipment Manufacturers (OEMs) since 1986. As a worldwide provider of integrated electronics manufacturing, design and engineering services, our global footprint of ISO-certified facilities provides a stable and low-risk "launching pad" for the creation and production of advanced electronics-based products. For details go to *http://business.winonachamber.com/Events/details/2016-manufacturers-technology-week-tours-benchmark-electronics-tour-2896*

WØNE Repeaters
146.640 PL 100.0 Hz *
146.835 PL 131.8 Hz **
444.225 PL 100.0Hz FM Voice C4FM Digital
* SkyWarn Net when activated.
** Sunday Night Net—8:30 p.m.

The Winona Amateur Radio Club meets the Third Thursday, 7 p.m. tt the Winona County Office Building, 202 West Third Street



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At Large: Dan Goltz, WKØW; Leslie Hittner KØBAD
Dues: $25 per calendar year per license holder. $30 per calendar year for all licensed members of the same family within the same household.
Send dues to: Harro Hohenner, Treasurer, P.O. Box 1451, Winona, MN 55987

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Monthly club programs are held on the third Thursday. The submission deadline for the Hamgram is Wednesday of the week prior to that of the club programs