

# *Hamgram*

*Newsletter of the Winona Amateur Radio Club, Inc. Oct 2007*

[www.w0ne.org](http://www.w0ne.org)

---

## **Meeting Reminder**

The September meeting of the Winona Amateur Radio Club, Inc. will be held on Thursday, October 18, 2007 in the lower conference room of the Courthouse Annex. The meeting will begin at 1900. The program will be an extensive discussion of present and future club communications infrastructure needs.

---

## **Club Infrastructure to be discussed at October club meeting program**

Erik Brom, WBØNIU

We have been having discussions on and off this year concerning the club owned infrastructure (repeaters and such). Although working well now, our equipment is getting old, both physically and technically, and we want to figure out what direction the club should take. Most likely, this will take funds beyond what the club members can put together. With our recent very positive experiences with the disaster drill August 4, and now the flood, now is the time to move. We have a great group of talented people, in both technical and operations and I know we can make this happen.

The steps in this process are:

1. Figure out what our communication needs and wants are.
2. Determine what equipment is needed to fulfill this need (and its cost).
3. Raise the funds and purchase the equipment
4. Install the equipment.

A lot of good ideas have been discussed, but we are still in phase one. I hope we can wrap up phase one at the club meeting.

First, I think we can break our needs down into two parts:

1. External needs. This is what we do to support public service, Skywarn, other communications emergencies, etc.

2. Internal needs. These are strictly for the pursuit of our hobby. That includes communicating with each other and experimenting with new technologies.

The external needs are what we can sell to help raise funds. The internal needs are what keep us interested, and that we use 99% of the time. Both are important.

In addition to just our own club's needs, we need to discuss this with our neighbors in La Crosse, Rochester, and Wabasha to see what their plans are. As the flood pointed out, its important that we all be able to work together.

To get the discussion started, here are some ideas that have emerged so far, in no particular order:

1. Conventional analog voice on 2m and 70cm. This provides the bulk of our communications, and nearly everyone has equipment for it. During the flood, we had some operators who are not normally active on these frequencies, so don't have equipment. Fortunately, enough active people had extra stations that we were able to deploy to cover. This points out that everyone needs to keep their equipment in a state of readiness, as well as the club having extra equipment available.
2. With nearly everyone carrying a cell phone these days, maybe the "paging" capabilities are less necessary. With a little pre-planning, we could get a hold of everyone very quickly. Of course, this assumes the disaster has affected our area yet, as cell phones will go down quickly, as they did in Rushford.
3. Due to our terrain, our current repeaters have some dead spots - most notably Rushford, Whitewater, and to some extent Stockton, all areas prone to flooding. We need either temporary or permanent means to fill these holes.
4. Surprisingly, I think autopatch still has a place. At one point in the flood, we were preparing to provide an autopatch between Rushford and Rochester Red Cross. In the end, we didn't, partly because of poor signal quality from Rushford, but it pointed out its usefulness.
5. During a disaster, our window of opportunity is from very early on, from reporting weather, to helping with search and rescue, and then into Red Cross support. Within 24 to 48 hours, normal means of communications start returning, and our work tapers off. That means we must be able to deploy ourselves and our network very quickly.
6. The bulk of the traffic we passed during the flood was health and welfare. This was passed out of the affected area on voice to where the normal infrastructure was working, where it then went via phone or

email. We had two shelters operating, one with, and one without, normal communications. It took us a while to realize that we could use conventional Internet at the one, but it sure would have been handy if we could have extended it to the other. Everyone depends on the Internet for information these days, I noted a comment that the Internet was being used heavily at the I-35W bridge collapse. While I was in Rushford, there was a situation where an agency was trying to send a fax to the shelter, regarding a victim's medications. I made arrangements to have it faxed to someone in Winona, who would have relayed in by voice (eventually the problem was solved another way). However, if I had had an Internet connection there, I could have received it directly (using my Internet fax which would then send an email), and I could have printed a copy directly.

7. Being highly "digital" myself, I would like to experiment with TCP/IP based communications. TCP/IP is the language computer networks use. I would like to work on creating these networks on the air, and connecting them to the Internet.
8. At the drill on August 4, Russ provided an ATV link from the center of the affected area to the command post. Everyone at the command post was VERY impressed with this. I think we need to expand on that, possibly even into slower update picture messaging over longer distances. The Emergency Operations Center is located in the basement of the LEC. They would very much like some "eyes" into the affected area. Still pictures would fulfill this need.
9. We have recently had a resurgence in APRS activity. I think a low speed (1200 baud 2m) network still has a place, and I think we could use it effectively in a couple ways.

First, it provides short text message passing, including sending Internet email. One thing I like about APRS over conventional "connected mode" packet is that it auto-routes, somewhat like Internet traffic. That is, you don't need to know the best path between the sender and receiver. Each packet "finds its own way". Connected mode packet requires the sender to know an effective path to the receiver.

Second, to automatically collect weather data, especially during Skywarn. The rainfall amounts would also help predict flash flooding. We have an excellent source of weather stations right within our own community and I think that we should deploy several covering the western and northern parts of Winona County. These would also operate as digipeaters to fill in some gaps in the APRS network. The La Crosse weather service would also be able to pick this info up directly.

Third, tracking of our stations. This helps the NCS figure out where the resources are.

10. Everyone depends on cell phones today, but they go down in the affected area. Is there a way we could provide similar functionality? More or less bringing in a cell, but our infrastructure providing the link out.
11. The 444.225 MHz repeater isn't very active. Turn that into a multi-mode repeater – it would still repeat analog audio, but it could be optimized for digital communications. We would encourage users to use it for whatever modes they wish. For example, two stations might arrange to transfer a picture over the repeater.
12. Finally, as I mentioned earlier, we need to make sure our communications meshes with our neighboring groups, so we can all work together effectively.

I don't want to limit our discussion, but here are some technologies available to us:

APRS: Automatic [Packet or Position] Reporting System. Typically used on, but not limited to, 1200 Baud 2m circuits. Mobile stations can report their position, as determined by a GPS receiver. Short text messages and weather reports can also be sent. The protocol is "unconnected", any digipeater that hears a packet will retransmit it. The number of repeats is counted, so a packet will radiate out in a certain circle around the transmitter, then die. A feature of the unconnected mode is that the sending station does not have to know the best path. Also, there are many "igates", which relay packets to the Internet. With that you can monitor the traffic on websites such as APRSWorld.net. Short outgoing email can also be sent.

NVIS - Near Vertical Incidence Skywave. There has been some recent experimentation locally – the antenna is placed very close and parallel to the ground. The signal goes nearly straight up, then bounces back down forming a coverage area of some radius around the sending station. This could be useful in getting to low places, such as Rushford.

HSMM - The first several channels of standard 2.4Ghz Wi-Fi wireless networking are low power unlicensed sharing of the ham band. High Speed Multi Media is the name for it when running these channels under amateur rules for content, but higher power is allowed (as long as it doesn't interfere with the unlicensed users). It is run with security on, but using a special password just for Hams. That way, all Hams, but only Hams, can access it, and its not encrypted in that sense.

D-Star: D-Star stands for Digital Smart Technologies for Amateur Radio. It's an open protocol, developed by the Japan Amateur Radio League. It

does digital voice and data. Also has much routing capability and connectivity with the Internet. See the current QST for some information and references. Icom is currently the only supplier of equipment in the US.

Medium Speed data links – on the order of fast dial-up Internet connections. These would be faster than 1200 baud, but would be easier to deploy than HSMM, since they would be on intermediate (440 MHz?) bands.

Sending still pictures? I think that could be accommodated by sending jpg files over a medium speed data link. This also sounds like Slow Scan TV.

(This is an excellent starting point for our discussion. Let's all have read this article before Thursday night. – Les)

---

## **Minutes of the September 20, 2007 meeting of the WARC**

The program for this month's meeting consisted of a short foxhunt in the area of the meeting. The fox was found after about 30 minutes in the break room in the basement of the County Annex building. This foxhunter was all over the downtown county campus but never thought of checking out the area near the meeting room (duh!!)

---

After a brief presentation by Erik (WBØNIU) and Clare (KØNY) of the APRS frequency interference that had plagued the area for several weeks, the business meeting was called to order at 1950.

The minutes of the August 2007 meeting were approved as published in the September 2007 *Hamgram*.

Treasurer's Report: There is \$ 649.95 in the club account plus unspecified amounts of Petty Cash and one outstanding check.

Recent expenditures: MN/WI repeater Association annual fees; \$ 30/each  
A \$200 club insurance premium will soon be due.

### **Old Business**

There was no formal old business. However there were discussions and announcements:

1. There is DVD of the recent emergency drill that is linked to the WØNE WEB site.
2. Clare (KØNY) Announced that several databases will be available to members of the WARC listserve (generic Incident Command System organizational chart, List of emergency contacts, Member amateur operators names/telephone numbers,. Etc.)

3. Erik (WBØNIU) Noted that the “64” site seems to have survived the heavy use during the flood. Some minor adjustments were made during a recent inspection.
4. Erik (WBØNIU) Requested more discussion of club infrastructure needs for now and the future on the WARC listserv
5. The program for October will discuss club infrastructure.

**New Business**

**Len (KCØRSX) moved and Erik (WBØNIU) seconded: The officers research the current club insurance coverage and make a recommendation to the club about future insurance needs.** The motion passed

(The Secretary was instructed to make an attempt to locate the insurance papers to see what the specific coverage was on each of the two policies held by the club and then to inform the rest of the officers so that a discussion could take place.)

There was no other new business, however there were discussions and announcements:

1. Erik (WBØNIU) announced that steam engine #261 fall color runs from St. Paul to Winona will be made on Saturday and Sunday October 6 and 7. Security crowd control volunteers are needed. A free ride to La Crosse and back on the “off day” of the volunteers is the reward.
2. Jim (KBØTHN) announced that a city-wide fox hunt will be held on Saturday October 6 right after the morning breakfast.
3. Len (KCØRSX) will post announcements of these activities on the WARC listserv in addition to reposting the emergency debrief questions in order to stimulate the discussion requested by Erik (WBØNIU).
4. Jim (KBØTHN) the Development Committee will meet to discuss fundraising needs after the infrastructure needs have been determined.

There being no business the meeting was adjourned at 2025.

Respectfully submitted,

*Leslie D. Hittner*

Leslie Hittner, Secretary

Meeting Attendance:

Jim, KBØTHN	Les, KØBAD	Terry, WØEUU
Tom, WØMK	Len, KCØRSX	Clare, KØNY
Ken, NØJP	Tony, WØIU	Judd, KCØRFU
Steve, KDØBOD	Gary, NØOWS	Erik, WBØNIU
Dick, NØVV	Walt, KEØXI	Pete, KC9ERJ
Jake, KC9CRM		

**The Winona Amateur Radio Club, Inc.**

President: James Jefferson Jarvis  
[kb0thn@aprsworld.net](mailto:kb0thn@aprsworld.net)

Vice President: Lance Tagliapietra  
[lancetag@luminet.net](mailto:lancetag@luminet.net)

Secretary: Leslie Hittner  
[k0bad@arrl.net](mailto:k0bad@arrl.net)

Treasurer: Richard Kolter  
[kolter@hbc.com](mailto:kolter@hbc.com)  
1128 West Mark Street  
Winona, Minnesota 55987

At Large: Ken Spittler (06/30/07 to 12/31/07)  
[moms70@mailstation.com](mailto:moms70@mailstation.com)

Dues: \$25.00 per calendar year per license holder.  
\$30.00 per calendar year for all licensed members of the same family within the same household.

Dues should be sent to: Richard Kolter, Treasurer

***Hamgram is published monthly by The Winona Amateur Radio Club, Inc.***

Editor: Leslie Hittner (KØBAD)

Distribution: Mail: Ken Spittler (NØJP) and Delores Spittler (NØNUO)  
Electronic: Leslie Hittner (KØBAD)

Please address comments and correspondence to: Leslie Hittner  
1340 Conrad Drive - Winona, MN 55987 or [KØBAD@arrl.net](mailto:KØBAD@arrl.net)

Board meetings are announced in advance (WEPNet)

***Hamgram***

**C/O The Winona Amateur Radio Club, Inc.**

**PO Box 1264**

**Winona, MN 55987-7264**

