

# Hamgram

Newsletter of the Winona Amateur Radio Club, Inc. – June 2002  
[http://www.jarviscomputer.com/warc/hamgram/active\\_issues.php3](http://www.jarviscomputer.com/warc/hamgram/active_issues.php3)

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## Meeting Notice

The June 2002 meeting of the Winona Amateur Radio Club, Inc. will be held on Thursday, June 20, 2002 at the County Courthouse Annex Building. The meeting will begin at 1900 in the basement conference room.

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## Graduations a bunch!

### Good Show Mr. President

Jim, KBØTHN, struts across the stage during his high school graduation ceremony. Hmm...do we see a wee bit of defiance there (about two feet worth)?

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### Hello my classmate

I recently attended the Winona Technical College graduation held on Thursday, May 9, at Winona State University. I was surprised to learn that a former high school classmate, now an Amateur Radio Operator, was graduating from the aviation mechanics program. I figured this out when I looked at the program and found out his last name.

I only knew him as Dan or KB9OBF. His wife, Missy, KB9YZY, is also an Amateur Radio Operator. I talked with him and found out that we both attended last year's Field Day event and did not even know one another. Dan introduced me to his wife, Missy, and their daughter, Jasmine.



Congratulations, Dan! I hope you do well in your career. It is nice to hear a familiar voice on the Net. Take care.

-Your high school classmate, Maxine, KCØEAE

Both photos by Maxine, KCØEAE

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## Minutes of the Winona Amateur Radio Club, Inc. May 16, 2002

Meeting called to order by Russ, NØQK, at 7:47 after a nice presentation on mobile and portable antennas by Skip, K7YOO.

The guest, Nick Coshenet, was introduced by Terry, WBØEUU, grandfather.

Minutes of the April, 2002, were read by Clare, KØNY. Move Duane, W9HWQ, second Lance, KBØYJU, to approve as read. Motion passed.

Ken, NØJP, asked about the timing of by-laws changes. Discussion was postponed to the old business portion of the business meeting.

Dick, NØVV, made treasurers report:

\$1,703.38	Beginning balance.
110.00	Dues Received
38.68	Petty Cash
0.00	Disbursements
=====	
\$1,846.06	Available balance.

Clare, KØNY, moved and Bill, WBØPVO, second approval of treasurers report. Motion passed.

Bill, WBØPVO, reported on conditions on the HF bands.

The field day report was made by Jim, NØWE. The site will be the gun club. We will use the sheriff's trailer. Pizza is be served on Saturday night. He needs operators.

#### **OLD BUSINESS:**

Ken, NØJP reported that he and George, KØDHI, made a presentation to the Lutherans. It went well and resulted in nice publicity in the "POST".

Gary, NØOWS, ask about the change in club call sign to WØNE. Dick, NØVV, reported that not much progress has been made yet. He is still trying to get a ULS number.

Lance, KBØYJU, spoke about the GRE bike race. Henry Wall is overall race coordinator. Vehicles will be provided by Walz.

Ken, NØJP, raised the dues/by-laws change, again. Russ, NØQK, spoke his thoughts on the subject. Ken was informed that the change really did pass at the March meeting.

Jim, NØWE, spoke about the preparations for the 150th Minnesota City Aniversary. Those participating are NØWE, KEØS, KB9YZY, KB9OBF, and KØNY.

Clare, KØNY, announced that he had just spoken to Jim, KBØTHN, and Jim had just won over \$10,000 in scholarships, cash and a new computer for his APRS science fair project at the International Science Engineering Fair in Louisville, KY.

Steve, N9MFH, moved and Pat, KCØJZI, second adjourning at 8:26 PM. Motion Passed.

#### **Present:**

KØDHI, KØNY, KBØYJU, KB9YZY, KCØJZA, KCØJZI, KCØMBL, KCØMBT, KEØS, KEØXI, KFØQ, NØJP, NØNUO, NØOWS, NØPDD, NØQK, NØVV, NØWE, N9MFH, W9HWQ, WAØX, WBØEUU, WBØPVO, and Jennifer

## Welcome to VHF DX - Part 2

By Matt, KFØQ

Whew. I am still tired from the big weekend participating in the ARRL June VHF QSO Party. (I had hoped to include a couple of photos of my 8 band setup but haven't quite mastered the digital camera yet. At least I have one photo of the low band stack (50 to 222MHz *see caption*). Last time I left off with the 222 band. As I stated before it is one of my favorites. (Probably the best kept secret out there for VHF DX). Any way some folks may argue that the 70cm aka 432MHz band is pretty good too. I have seldom made a contact on 222 that I haven't been able to duplicate on 432. Part of the reason for this is that for antennas of identical boom lengths there is typically higher gain on the higher frequency yagi.

Calling frequencies for the weak signal portions of the band above 222 and above are typically the .100's (222.100, 432.100, 902.100 and 903.100, 1296.100 and so on. One thing about the 432 band I have noticed is how quiet it is with respect to interference. At least for the area within a couple hundred miles of here I have noticed very few problems with the 432 band and generated noise causing problems. The noise floor is therefore pretty far down on the band which is great! Sometimes barely perceptible signals with no S-meter reading can be copied on 432. Obviously there are other uses of the 70cm band beyond the terrestrial weak signal stuff. Modes such as satellite (at 435MHz) ATV (amateur television) and moon-bounce (EME) as well as FM simplex and duplex occur on 70cm. When you sum it all up the 70cm band is really quite a "work-horse"!

The next two bands up the spectrum are the 33cm (902MHz) and 23cm bands. Both bands are similar but I find few differences. I like to call these bands the "low microwave" bands. Again both bands offer more to us such as FM and ATV (on 1240Mhz) but I will focus on the weak signal modes and characteristics that I am familiar with. Antennas and equipment used on these low microwaves are quite similar. Most folks use transverters for either band but a few manufacturers<sup>1</sup> have offered 23cm as a stand-alone transceiver or optional band module, which is nice. On 33cm weak signal work occurs at either 902 or 903 MHz. Local convention applies here, due to the only problem I have noticed with the band which is local interference. With such tiny signals it is almost a must to use another frequency to coordinate contacts aka "liaison frequency" such as 432Mhz to report hearing the sending microwave band station first before two-way communications can be established. I have found that connecting a programmable CW keyer to my IF radio driving the transverter is a great way to create a "beacon" that can be used for the other station to find me. Contacts can be surprising on both bands; I have made contacts 300 miles out with as little as 8 watts. I have worked other stations some distance as well that are running as little as 1W. I have not experienced much of a tropo opening on the lower microwaves yet, but friends have told me tales of Minnesota stations working Mississippi on 1296MHz... (I am waiting for that to happen when I am operating)!

For terrestrial weak signal work on both bands I run what are affectionately known as "loopers". Loop yagis offer many advantages over standard yagi antennas. They are typically made with full wave loops of aluminum or brass fastened to a grounded aluminum boom. They can offer clean patterns and some pretty good gain depending on the boom length. The driven element can be fed directly with 50 feedline, which is really nice. Speaking of feedline, which is one of the larger hurdles one can encounter as we go up in frequency. My biggest problem with equipment on 1296

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<sup>1</sup> Every one of the "big three" Yaesu, Icom and Kenwood have offered a transceiver with 23cm all mode capability. The IC1275 was a popular 23cm only transceiver.

has always been feedline connectors. A proper “N” connector is rated to operate in the well into the several GHz range but must be installed correctly to work.

The middle microwave bands of 2304 and 3456 (13 and 9cm) are quite similar too with equipment type/size power levels and antennas. Just as UHF starts at 300MHz SHF begins at 3000MHz (even though a few of us like to think 2304 is an SHF band too). Even more problems occur with feedline (now typically hardline “heliac” or semi-rigid coax). Connectors used are still “N” or “SMA” for the smaller diameter feedline. Feedline loss becomes a problem as well in both receiving and attempting to get as much power to the antenna as possible. In many cases external transmit/receive relays are required to throw over the antenna connection, which provides another place for potential troubles. Many times only a fraction of the PA power reaches the feed-point of the antenna at these high frequencies. Loop yagis are still used for terrestrial work, but dishes do sometimes appear particularly on 3456. The propagation characteristics of the bands are similar, but many challenges occur too. I have had slightly better luck on the 2304 band vs 3456. I continue to have some of the issues with feedline and connectors; hopefully I can get things fixed so that contacts on 3456 will be more reliable.

The next step up the band takes us to 5.7 and 10GHz. I will be brief here as I have very little experience on either band. My furthest contact on any of these has been at 10Ghz with a borrowed setup where the other station was within site. Still both bands have the potential for some pretty good DX.<sup>2</sup> Most of the stations I know of active on these two bands aka 6 and 3cm respectively, are using dishes or parabolic style antennas. Surplus dishes used for satellite TV reception have been pressed into good use on the amateur microwave bands. Assembled transverters, brick amplifiers, and others accessories are available, but many microwave enthusiasts build there own either through kits or reworking blocks of commercial gear. EME and satellite modes are available on the higher microwave bands as well. There are even higher bands out there in use such as 24,47,75,120GHz, which seems hard to believe. Just last year the first moon-bounce contact was made on 24GHz<sup>3</sup> between a station in Manitoba VE4 and W5 in Texas! I had the pleasure of hearing the story about this famous contact from Barry, VE4MA several weeks ago in the twin cities.<sup>4</sup> In my opinion “pushing the envelope” of VHF DX is really what it means to you. In the strange world of propagation you never know quite what to expect!



Photo: The big stack" Antennas for 50,144, and 222MHz at KFØQ/Ø EN43dx set up for the ARRL 2002 June VHF QSO Party. With this array (and 5 more antennas for the higher bands) a total of 289 contacts were netted on 7 VHF/UHF bands from the Northeast US to VE7. For comparison the middle yagi used for 144MHz has a boom length of 24 feet) Photo taken June 9, 2002.

<sup>2</sup> See DX records for frequencies above 50MHz at:

<http://www.remote.arrl.org/gst/worldabove/dxrecords.html> from here you find that the distance records (for tropo enhancement) over continental North America are: 2079km for 1296MHz, 1609km\* for 2304MHz, 1507km\* for 3456MHz, 1187km for 5760MHz, and 1024km for 10GHz. \* Both of these records were set in May of 2002!

<sup>3</sup> See the breaking news from 2001 at: <http://www.qsl.net/g3pho/news1.htm> link at: <http://www.microwaves.thersgb.net/arch2001.html>

<sup>4</sup> The NLRs (Northern Lights Radio Society) annual meeting and conference “Aurora” featured Barry, VE4MA as one of the guest speakers at the 2002 Conference held in White Bear Lake, MN April 27, 2002.

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## Field Day 2002

“Object: “To work as many stations as possible on any and all amateur bands and in doing so to learn to operate in abnormal situations in less than optimal conditions. A premium is placed on developing skills to meet the challenges of emergency preparedness as well as to acquaint the general public with the capabilities of Amateur Radio.” ARRL Field Day Rules

“Far and away the best opportunity to showcase Amateur Radio to local officials and the general public is Field Day. Every fourth weekend in June, tens of thousands of amateurs representing thousands of clubs and non-club groups set up portable stations in temporary locations. Eschewing commercial power sources, they demonstrate a great truth that today is more important than ever: No matter what, there *will* be hams and they *will* be able to communicate with one another. *No matter what.* We don’t need infrastructure. All we need is the equipment we use every day, an independent power source, and what’s between our ears.” QST Editorial June, 2002

Enhancement for 2002 – GOTA – (Get On The Air)  
“The idea behind this new station is to give generally inactive amateurs, in addition to Novices, Technicians, and un-licensed people under the supervision of a control operator, an opportunity to experience Field Day fun without the pressure of sitting in the chair at one of the main positions. ...It will broaden the base of on-the-air participation and offer just the kind of training that Field Day is intended to provide. You probably have friends with General, Advanced, and Extra Class licenses who haven’t been on the air in a while and are reluctant to jump into the Field Day fray. Invite them to take advantage of this special provision to help ease their re-entry.” QST Editorial June, 2002

Antennas will sprout at the Winona Rod & Gun Club at 1 PM on Saturday, June 22. The Club will be operating a portable station on non-commercial power with the goal of contacting many of the thousands of other field day stations through the end of the contest on Sunday afternoon.

In line with the goal of having some fun for non-contesters, we will have a second station set up for everyone to Get On The Air without worrying about messing up the score of the hard-core contesters. Field Day is a great day to get on the air because there are lots of stations operating and plenty of people to talk to. It is a great opportunity to play with radio equipment, solve some technical challenges, and talk to people around North America. In other words, do the things that have made ham radio attractive over the decades.

Significant Others, kids, and friends are good people to bring up to the site. Saturday Evening is an especially good time because the club provides pizzas to go along with the pop. People have been known to bring up other treats as well.

Teen hams and potential hams often enjoy working into, or even through the night. Some like early Sunday morning when the dew is on the grass, the breakfast rolls are fresh, and the coffee is hot. Some like the technicalities of set up and tear down. Your presence is welcome. Come on up!

Sheriff Dave Brand has offered the use of the County Emergency Communications Van again this year. That means a comfortable, bug free operating area and shelter.

To get to the Rod & Gun Club, go west on Hwy 14 just past St. Mary’s College, turn left on County 21 and go about 3.4 miles to the top of the hill, then right on Twp 14 (gravel road) 1 mile, then right on Twp 3 up the hill for about 7/10 mile, through the farm yard to just past the R&G Club House.

More details will be given at the Club meeting. Walt Kelly (KEØXI) and Jim Brown (NØWE) are co-chairing the event.

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**The following is an editorial opinion**  
**Where goes the breakfast?**

By Ken, NØJP

Where goes the breakfast? Members of the WARC meet for breakfast at a scheduled time and place. This activity was instituted by, then Club president, Gary Kohner as a means of promoting fellowship and camaraderie. It is believed the breakfast was never an official club function.

From time to time the notion of changing the location arises. My question is WHY! The current

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restaurant has good food at reasonable prices, a central location and very good parking. We are furnished a private room at no cost, which is a plus for our sometimes-boisterous group. Plus the management donates gift certificates for our holiday party. Sure, the coffee is not the cheapest in town and an occasional glitch occurs in service. But can any other restaurant do better?

Some of us breakfast at various restaurants on the second and fourth Saturdays. Some are good. But could they handle the sudden influx of 15-20 people wishing to dine as a group? However, since there is sentiment for a change, let's discuss it at breakfast some morning when attendance is good. Let those who advocate change come up with a plan concerning a proposed location and facilities available.

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