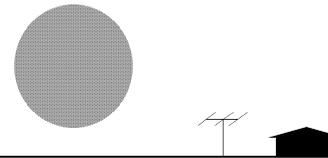


Twin City Amateur Radio Club

Champaign-Urbana, Illinois

January 2006

Milt Forsberg K9QZI, Editor



Hamfest Calendar

Jan 7 Waukesha, WI
22 St Charles, IL
28 Collinsville, IL
Feb 3-4 Jackson, MS
4-5 Miami, FL
10-12 Orlando, FL
25 LaPorte, IN

VE Exams

14-Jan-2006 UNSPONSORED ARRL/VEC
10:30AM (Walk-ins allowed)
MIKE R HUGHES(815)560-3200
FOSSIL RIDGE PUBLIC LIBRARY
386 W KENNEDY ROAD
BRAIDWOOD, IL 60408

22-Jan-2006 Twin City Amateur Radio Club
1:00 PM (Walk-ins allowed)
Debra J Fligor (217)244-4446
Univ of IL Fire Service Inst
11 Gerty Dr Champaign, IL 61820

04-Feb-2006 SANGAMON VALLEY RADIO CLUB
9:00 AM (Walk-ins allowed)ARRL/VEC
JAMES STEVE UPCHURCH (217)789-2500
AMERICAN RED CROSS
1025 S 6TH ST
SPRINGFIELD, IL 62703

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Champaign, IL 61825-2061

Meeting January 10

Our next meeting of the Twin City Amateur Radio Club is Tuesday, January 10, at the UI Fire Institute, at 7 p.m. You can be part of the program this month! Everyone is invited to bring a "Home Brew" project to show to the club. Home Brew is a term meaning something you created or built yourself. It can be a piece of radio gear, support items, or even ham-related software you created. It is interesting to see what our members create. Board meets Jan 5 at the Fire Institute.

Check Your Address Label

We are now in a new year for the club. Please check the address label on this newsletter to be sure your dues are current. It should show 2006 or later. If not, then please send your check to bring your membership up to date. Also, if you are a member of the ARRL and have notified us that you are, the label will contain "ARRL" as well. If anything on the label is incorrect, please let K9QZI know so it may be corrected.

VE Exams

Our next VE Exam Session is Sunday, January 22 at 1:00 p.m. at the UI Fire Institute. The dates for 2006 are Jan 22, April 23, July 16, and October 15. All are Sundays, starting at 1:00 p.m. at the Fire Institute. January and April were moved from our normal 3rd Sunday to avoid conflicts with Martin Luther King weekend and Easter.

Repeater Update

The antenna changeover is now complete, with the removal of the old tower just prior to Christmas. Coverage appears to be a little better to the Northwest now, but still is better in other directions. This is good in that we don't create a conflict with the 146.76 repeater in Peoria. The 444-100 repeater can be worked from many locations in and around Bloomington. Please remember that our repeaters now require a tone of 162.2 to access them.

We are still accepting contributions to the repeater fund. Please send your check now if you have not already.

Radio Expo – New Date!

August 26-27, 2006 again at Grayslake
No conflict with Peoria this year!

TCARC Officers and Board Members

President Bob Minton WA9KGU 352-4859
Vice President Ralph Cox W9PGE 396-5111
Secretary Wayne Hamilton AB9FJ 384-4310
Treasurer Milt Forsberg K9QZI 352-5075

Board Members

Al Wolfe K9SI 688-2790
Drew White K9CW 643-7327
Mark Garrett KA9SZX 351-1572

VE Coordinator

Debbie Fligor N9DN 244-4446

Website

www.qsl.net/w9seh

Last Month's Meeting Snowy Chili

Our well-planned-out meeting for last month turned out a little snowy. We arranged a location and had chili made for everyone to enjoy as a supper meeting. However, the weather prevented us from holding the event. By early afternoon, the roads were becoming dangerous and snow kept falling. The board decided to cancel the meeting instead of jeopardizing our members trying to drive to it. The chili was done, so it was frozen for a future replacement date. We apologize to everyone, but we can't seem to control the weather. We will announce when the chili will be thawed and served.

Warner Bandy W9RRY

At age 90, Warner Bandy, W9RRY, died December 29, 2005. He was a TCARC member several years ago. He was the co-owner of the Bandy-Lehmer Radio store, located on the campus, in the 50s. It later became Bandy TV when TV was introduced. He was licensed as an Amateur Radio Operator in 1934, the year he graduated from Champaign High School.

PL and the 76 Repeater

By Ben Fisher K9BF

The club's repeater has been an open system for years, needing no special tone or code to access. This was good in that it allowed travelers and those with old radios to have easy use of the system. But located on the fringe areas of our repeater are several others on the 146.76 frequency with Peoria being the nearest. Over the years this has been a problem for both Peoria and us. When band conditions are good for 2 meters, mobiles and base stations from outside our area would bring up our repeater and us theirs. In the past, we combated this by adding PL encode and tightened up our repeater's squelch making it necessary to have a relatively strong signal to access it. This was counterproductive in that it reduced our effective range by as much as 10 miles and made HT

coverage sporadic in the twin cities. In light of the fact that almost every radio manufactured in the last ten years or more has CTCSS encode capability, the Illinois Repeater Association passed a resolution that all coordinated repeaters must have some type of access control mechanism.

The problem of dealing with unwanted traffic was encountered many years ago when commercial entities like cab companies and wrecker services began using two-way radios. Companies like Motorola, General Electric and EF Johnson opened up shops to support this service by selling radios and providing repeater access. It was common for one repeater to be used by a number of different businesses, thus the name, community repeater. With personnel from different companies all using the same repeater, listening to other dispatches became annoying. Engineers devised a scheme for keeping the receivers of users on a community repeater quiet unless they were called by one of their own group members.

The scheme takes advantage of the fact that we do not need to hear audio frequencies below 300 hertz to obtain good communications. Engineers added high-pass filters to receiver audio paths to prevent frequencies below 300 hertz from reaching our ears. Instead, they are diverted to a circuit called a decoder, which controls an audio muting feature. Initially, a set of 32 different tones was developed that ranged from 67 to 203.5 hertz and would only un-mute a receiver's audio when a specific tone was detected. By equipping all radios and the repeater itself with tone encoders and decoders, each group only had to listen to their own dispatches.

The encoders in our radios can be set to generate any one of the different tones and transmit it along with our voice when we speak. As long as the tone is present in our transmitted signal, the decoder in our repeater lets the controller know that it is ok to retransmit the received signal. The controller then passes the audio to the transmitter along with a new tone generated by the repeater's encoder. If we have the decoder in our radios turned on and set to

162.2 hertz, we will only hear signals coming from our repeater. We don't have to listen to unwanted intermod, or reception of repeaters from out of our area. This is referred to as a continuous tone controlled squelch system or CTCSS for short. Motorola called their system private line or PL. By using it on our repeater, we are able to reduce the squelch level to where a very weak signal can access our system and thus enabling us to enjoy the full range of our repeater. In addition, those wanting to work the Peoria and Chicago repeaters can now do so without bringing up our system. This is a long overdue improvement to our club repeater.

Kids Day 2006

From ARRL Newsletter

The second Sunday in January is the day to turn your shack over to the kids for some ham radio fun with a purpose. The first running of Kids Day 2006 begins Sunday, January 8, at 1800 UTC and continues until 2400 UTC with no limit on operating time (the second Kids Day will be Saturday, June 17). Kids Day provides a terrific opportunity to show youngsters what Amateur Radio is all about--and that includes its role in emergency communication. ARRL Education and Technology Program ("The Big Project") Coordinator Mark Spencer, WA8SME, says Kids Day can be a great opportunity spark change and get kids and families thinking about emergency preparedness.

"While you are coaching the youngsters who visit your shack--and their parents too--on how to make contacts and new friends via ham radio during Kids Day, why not take a few moments to ask them about their family's plans to deal with emergency challenges?" he says in December 2005 QST (see "Kids Day 2006" on p 45). "Why not use the opportunities offered by Kids Day to show the youth in your neighborhood that ham radio can be loads of fun, and that ham radio is a way that they can contribute something very valuable to their communities?"

Call "CQ Kids Day." The suggested exchange for Kids Day contacts is first name, age, location and favorite color. It's okay to work the same station

more than once if the operator has changed. Suggested frequencies are 14.270-14.300, 21.380-21.400 and 28.350-28.400 MHz. Contacts via VHF repeaters are okay too, with permission from the repeater owner. Observe third-party traffic restrictions when making DX QSOs

All participants are eligible to receive a colorful certificate, which becomes the youngster's personalized "sales brochure" for ham radio, Spencer says. The League asks everyone taking part in Kids Day to complete a short survey and post comments afterward. Doing this provides access to download the certificate page, or participants can send a 9x12 self-addressed, stamped envelope to Boring Amateur Radio Club, PO Box 1357, Boring, OR 97009.

Spencer notes that this year's hurricane season highlighted one of the real values that ham radio brings to the community--a spirit of resilience. "By their very nature, ham radio operators are interested in personal preparedness and community service...this is resilience," he says. Spencer suggests that Kids Day sponsors take advantage of the opportunity to show how ham radio offers a way for participants to contribute something very valuable to their communities.

"A very effective advertising strategy is to get kids hooked on an idea," he says. "The kids in turn go home and 'bug' their parents about the idea. You plant the seed in a young mind, and they will take care of the rest!"

Spencer believes Kids Day activities can result in a family emergency plan campaign that could save lives, and future community planners who know communication and how to communicate.

"Make that personal connection that may result in a new licensee and, perhaps, more resilient individuals by opening your station and inviting kids and neighbors to share in your hobby," Spencer urges. "You just might find yourself re-infected with that enthusiasm that you once had."

Visit the ARRL Web site for full information: <http://www.arrl.org/FandES/ead/kd-rules.html>.