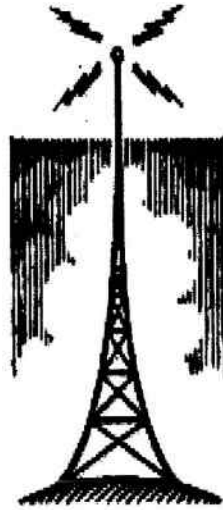




ANNOUNCING THE 2014 SIOUX CITY HAM RADIO CONVENTION AND ARRL IOWA STATE CONVENTION



Flea Market tables (ham radio related items only please) are \$10 per table With 2 chairs. Electricity is limited. Preregistration for flea market tables is recommended and will insure that you get rectangular tables. Email to: 2014tables@gmail.com

TICKETS

Tickets are \$5 at the door.

No advanced sales. Children under 12 free with paying adult.

Featuring vendors, VE testing, flea market and all the stuff you have come to expect.

Saturday October 11, 2014 8:00 - 2:00 at the Sergeant Bluff Community Center ; 907 Topaz Dr.; Sergeant Bluff, IA

Jim Rhodes K0XU

K0XU@arrl.net

712-898-2140

AK-SAR-BEN Amateur Radio Club, Inc.

Ham Hum

Volume LXIV, Issue 10

October 2014

DMR and MOTOTRBO



Frank Vondra, WB0QQK (left) and Neil Johnson, WB0EMU, talk about DMR

The September topic was about the Digital Mobile Radio (DMR) technology and Motorola's MOTOTRBO radio systems, which uses it. The talk was presented to a packed house...a lot of hams are interested in the subject. The subject was covered by two speakers, Frank Vondra, WB0QQK and Neil Johnson, WB0EMU.

Neil led off with an introduction to DMR and the technology behind it. Displaying a slide of a digital transceiver block diagram, he

walked us through its operation. Starting with the signal from the microphone, he described the transmitter audio preprocessing circuitry—filters and analog-to-digital converters—followed by the vocoder, a chip that applies digital techniques to compress the signal bandwidth before sending it to the transmitter circuitry.

He then showed that receiver operation was similar, but with the vocoder first extracting and restoring the compressed audio information before sending it to the digital-to-analog converter and output filters.

During this, Neil pointed out the differences between analog FM, DMR, D-Star, and other digital systems. He pointed out the technical superiority of DMR over D-Star, such as better weak-signal and noise-handling performance. He also pointed out the lower cost and growing popularity of DMR: D-Star is locked in by one manufacturer (Icom), while DMR radios are produced by many manufacturers.

(DMR and MOTOTRBO continued on page 9.)

Market to Market Relay Volunteers Wanted

Saturday, October 11 is the 7th annual Market to Market Relay Race. Amateur radio support has been involved since the beginning and has helped make the event so successful that the organizers have expanded to two additional states—and in both states, Amateur Radio has played a part.

At this point, we have the minimum volunteers to cover our assigned exchange points, so I thought I would reach out to you to see if you would like to help out. It is a lot of fun and, since we are covered, it doesn't matter what your level of experience is, or how long it has been since you've been involved. Each exchange will have an operator who can help you out.

Please go to <http://www.aksarbenarc.org/main/> and read the article about what is needed, then sign up.

Mary NØTRK

RABBIT HUNT OCTOBER 19. SEE PAGE 15.

☞ **October Meeting: HtKWiy,Y** ☜

For the October meeting, Jim Westcott, KA0KCV, will describe techniques for reducing theft in his talk, *How to Keep What Is Yours, Yours*.

Friday, October 10th, 7:00 PM, Red Cross Building, 81st & Spring Streets, Omaha, NE.

HAM HUM is the official newsletter of the AK-SAR-BEN Amateur Radio Club, Inc. in Omaha, Nebraska. It is printed monthly and is distributed to members of the club, local disaster officials, local electronics outlets, and editors of other ham radio newsletters.

Articles about activities of members are solicited. The subject matter must be of general interest to radio amateurs and be understandable to a significant portion of the membership. No payment will be made to contributors and submissions will be subject to the usual editorial review. Articles containing statements that could be construed as libel or slander will not be accepted. No guarantee can be made that an accepted article will be published by a certain date. Send your contributions to Ham Hum, P.O. Box 24551, Omaha, NE 68124-0551 or email hamhum@aksarbenarc.org. Please contact the editor for permission to reprint anything appearing in the Ham Hum.

Club Officers & Board Members

| | | | | |
|--------------------------|-----------------|--------|--------------|----------------------|
| President | Adam Kavan | KDØMMG | 402-598-1521 | akavan@gmail.com |
| Vice President | Mitch Saure | WBØGBI | 402-455-6205 | skyking195@aol.com |
| 2014 Secretary | Bill True | WA9ASD | 402-426-2813 | williamtrue@aol.com |
| 2014 Treasurer | Dave Rice | NØJSB | 402-571-8915 | davegr@netzero.net |
| 2014-2016 Director | Russ Rosenquist | NØMNV | | n0mnw@yahoo.com |
| 2014-2016 Director | Barb Westcott | KCØHLB | 402-510-0308 | barbwestcott@cox.net |
| Immediate Past President | Tomas Hood | NW7US | 402-915-1771 | nw7us@nw7us.us |

Club Committees

| | | | | |
|----------------------------|----------------|--------|--------------|--------------------|
| Courtesy Committee | Bill McCollum | KEØXQ | 402-690-7965 | ke0xq@cox.net |
| Education | Adam Kavan | KDØMMG | 402-598-1521 | akavan@gmail.com |
| Field Day | Tomas Hood | NW7US | 402-915-1771 | nw7us@nw7us.us |
| Flea-esta | Chris Rice | | 402-571-8915 | davegr@netzero.net |
| Membership | Mary Joseph | NØTRK | 402-492-9156 | n0trk@arrl.net |
| Monday Night .94 Net | Rich Swig | WAØZQG | 712-256-7774 | wa0zqg@hotmail.com |
| Prizes | Rollie Miller | ABØNN | 402-333-1606 | ab0nn@arrl.net |
| Public Service/Emergency | Jim Westcott | KAØKCV | 402-510-0308 | ka0kcv@cox.net |
| Publications | Bill Wilkinson | KCØSVZ | 402-397-8803 | kc0svz@gmail.com |
| QSL Manager & Technical | Ed Edwards | KØIL | | k0il@arrl.net |
| Special Events Coordinator | Pat Joseph | KØCTU | 402-492-9156 | ppjoseph@cox.net |
| Web Services | Mary Joseph | NØTRK | 402-492-9156 | n0trk@arrl.net |

Repeater Committee

| | | | | |
|-----------------------|---------------|--------|--------------|-----------------|
| Chairman | John Gebuhr | WBØCMC | 402-932-3443 | wb0cmc@cox.net |
| Vice Chairman | Steve Schmitz | NØUP | 402-306-2972 | n0up@arrl.net |
| Control Operator | Mary Joseph | NØTRK | 402-492-9156 | n0trk@arrl.net |
| Club Callsign Trustee | Corby Krick | KØSKW | 402-540-5483 | k0skw@k0skw.net |

Other Contacts

| | | | | |
|-------------------------------|-----------------|--------|--------------|-----------------|
| ARRL Midwest Director | Clifford Ahrens | KØCA | 573-221-8618 | k0ca@arrl.org |
| ARRL Midwest Vice-Director | Rod Blocksome | KØDAS | 319-393-8022 | k0das@arrl.org |
| EC Douglas County | Steve Schmitz | NØUP | 402-306-2972 | n0up@arrl.net |
| EC Sarpy County | Dennis Mitchell | KCØYKN | | |
| Exams/Vol. Council | Brian Zdan | KMØY | 402-553-2610 | bzdan@novia.net |
| NE Section Manager | Matt Anderson | KAØBOJ | 402-580-5515 | ka0boj@arrl.org |
| Official Observer Coordinator | Bill McCollum | KEØXQ | 402-690-7965 | ke0xq@cox.net |

Address Change?

If you've changed your mailing address, or would prefer to receive the *Ham Hum* via email, please contact Mary NØTRK (Membership) or Bill KCØSVZ (Publications) with your new information.

AARC on the Web

Club Web Site: <http://www.aksarbenarc.org/>

Facebook: <https://www.facebook.com/aksarbenarc>

Yahoo! Groups: <http://groups.yahoo.com/group/AKSARBENTalk/>

Want to Use KØUSA 146.940 for Community Service Events?

The KØUSA repeater is an open system and is available for any licensed ham radio operator to use. We welcome other clubs and organizations to use it for providing communications support for nonprofit activities. To avoid scheduling conflicts, the Club asks that you obtain permission from the AARC Repeater Committee *at least 72 hours* in advance. To submit your request, please click the *KØUSA Use Request Form* link on the AARC web site: <http://tinyurl.com/msodyvh>



(Photo taken by KCØSVZ at the OPPD Arboretum during the July 10th AARC rabbit hunt.)

AARC Rabbit Hunt

On September 14th, Justin KEØBHP hid the transmitter in Regency park in a tree, using a rubber duck antenna on it. He parked his truck a few blocks away to avoid giving away the location. There were two teams: Dave NØJSB and Chris Rice were one; Pat KØCTU, Mary NØTRK, and Mitch WBØGBI made up the other.

Seems like the buildings around 90th and Dodge were bouncing the signal around a lot—which added to the fun. Dave found it first—after 72 minutes—then Pat a short time later.

NEXT EVENT: Because of the walks that the club will be hosting, the next rabbit hunt is scheduled for Sunday, October 19th at 3PM. Starting location is the parking lot at Memorial Park near 57th and Underwood. Last-minute changes will be announced at the club meeting the Friday before. Also look for announcements on the AARC Internet sites (page 2). Everyone is invited.

Dave NØJSB

September Door Prizes

For the September meeting, Purveyor-of-Discount-Goods Rollie ABØNN, went for quantity rather than quality: A package of white cable ties. Another package of white cable ties. A third package of white cable ties. A four-piece red funnel set. A handheld knife sharpener. A two-pack LED mini flashlight. A pack of microfiber cleaning cloths. A Pittsburgh fold lock-back utility knife. The Mr. Reeh Door Prize. The Brown Bag Door Prize. And—a last-minute addition—a Unimetrics Minicom radio. *Thereby hangs a tale...*

In July, Barb KCØHLB won the Mr. Reeh prize, which was the Minicom radio (see the August *Ham Hum*, page 6). She wanted to share her good fortune, so attempted to pass it on to some deserving individual at the Flea-esta for only \$5. Almost immediately it was reduced to the Special Clearance price of \$1; then changed to Free to a Good Home. No takers. It finally made its way back to the AARC club house on 81st and Spring Streets where it was awarded to Pat KØCTU during this month's drawing.

Coincidentally, it was Barb KØHLB who drawing the tickets this month.

Other lucky (or luckier) winners were: First bag of cable ties, Pat KØCTU. Utility knife, Steve NØUP. Funnel set, Mitch WBØGBI. Second bag of cable ties, Jerry K5LBS. Knife sharpener, Russ NØMNW. Microfiber cloths, Brad NØCALL. Flashlights, Don WBØVGB. Third bag of cable ties, Steve NØUP. Brown Bag Prize (an EZ-Dial Mini Timer), Bill KCØSVZ.



Barb KCØHLB tries selling the Minicom radio. Nearby, Marvin AEØEG sells some used equipment including a bright red Motorola VHF radio. (See June Door Prizes in the July *Ham Hum*, page 6)

Last, but not least, the Mr. Reeh Door Prize was awarded to Russ NØMNW. Opening the package, he discovered that it was a multi-band radio of some kind. Our expert on obscure electronics, Bill WA9ASD, glanced at it and described it thusly: "[It is a] Sears Model 132.2274 Four Band Dual Power Radio. Tunes AM, FM, 108 to 136 and 144 to 174 MHz. Runs on 120 vac or 6 vdc (4 X C-cells). Special feature, switchable AFC. Made in Hong Kong and sold only by Sears Roebuck and Company, U.S.A."

Note that the proceeds for each month's tickets go for buying next month's prizes. Also,

all tickets are kept and included in the Grand Prize drawing in December (two months, people).



Russ NØMNW with his Sears Four-Band radio. (Only 11 months until the next Flea-esta.)

Bill KCØSVZ

Veep Speaks



Our October meeting program will be *How to Keep What Is Yours, Yours*, by Jim Westcott, KAØKCV. Be sure to attend to learn how to keep your equipment safe from theft, plus other valuable information.

Mitch WBØGBI, Vice President AARC

You may be a ham radio operator if...you have looked at telephone poles and power line towers as potential antenna supports.



Silent Key

Charles Peaker, KCØDB

We are sad to report that Charles T. Peaker, KCØDB, passed away on August 30, 2014. He was 77. Chuck was a member of Aksarben Amateur Radio Club for nearly 30 years and was active in various club events such as Field Day and Flea-esta. Members would get a chuckle when he'd announce his call sign phonetically: Kumquat Charlie Zero Dingle Berry. A veteran of the U.S. Navy, his remains will be buried at sea.

Club Meeting Minutes – September 12, 2014

Bill WA9ASD, Secretary AARC

The meeting was called to order at 7:06 PM by the Vice-President Mitch, WBØGBI by saying the Pledge of Allegiance followed by introductions by name and call. There were 42 attendees.

Officers and Board members present included: Mitch, WBØGBI; Dave, NØJSB; Bill, WA9ASD; Barb, KCØHLB and Russ, NØMNW.

Secretary's Report - Bill, WA9ASD - A motion was made by Jim, KAØKCV, seconded by Mary, NØTRK to accept the minutes of the previous club meeting as published in *Ham Hum*. Passed unanimously.

Treasurer's Report - Dave, NØJSB - In the month of August there were deposits of \$22 for refreshments. Payments consisted of \$15.47 for refreshments, \$51.33 for *Ham Hum* supplies and a \$3 bank fee. This leaves the balance of all the club accounts at \$21,608.27.

President's Report - Adam, KDØMMG - no report.

Vice President's Report - Mitch, WBØGBI - Tonight's program will be presented by Frank Vondra, WBØQQK on Mototrbo Digital Communications. The program for the October meeting will be presented by Jim, KAØKCV on How to Keep Your Own Property Your Own.

Public Service

- OMMRS - Mary, NØTRK - Tomorrow morning in the Nebraska Room at Methodist Hospital there will a training session in the morning only on the 800 MHz radios and message handling.
- ARES - Steve, NØUP - nothing to report.
- SATERN - Jim, KCØSHZ - nothing to report.
- Community Events - Pat, KØCTU - On October 11 the Market-To-Market Relay will be held. The starting time for watch points will be 5 AM. This is a big event using lots of volunteers. On October 12 the Crop Walk will be held.

Education Committee - Mary, NØTRK - The class has started on Thursday evenings at the new Salvation Army facility. There are about 10 students and they are doing well.

Membership Committee - Mary, NØTRK - We have a membership application from Dennis Mitchell, KCØYKN. Pat, KØCTU made a motion to accept Dennis's application for membership, seconded by Jim, KAØKCV. Motion passed unanimously.

(Club Meeting Minutes continued on page 5.)

Club Calendar

| | |
|---------------|---|
| Oct 8 | 7:30 PM LARC Meeting, 4647 Superior St., Lincoln, NE. |
| Oct 10 | 7:00 PM AARC Meeting, Red Cross Building, 81 st & Spring St., Omaha, NE. |
| Oct 11 | 4:30 AM Market to Market Relay, Omaha Memorial Park, Omaha, NE. |
| Oct 11 | 8:00 AM Iowa State Convention, Sgt. Bluff Community Cntr, Sergeant Bluff, IA. |
| Oct 11 | 8:00 AM Nebraska Rare County Activation (http://www.qcwa.org/chapter025.htm) |
| Oct 11 | 11:00 AM HBQRP, Bredeaux Pizza, 1425 Silver St., Ashland, NE. |
| Oct 15 | 7:00 PM Heartland Hams, 403 Railroad Ave., Glenwood, IA. |
| Oct 16 | 7:30 PM BARC Meeting, Masonic Hall, 1908 Franklin St., Bellevue, NE. |
| Oct 18 | 8:00 AM SSARC Hamfest, Belton, MO. (http://southsidearc.net/) |
| Oct 18 | 6:00 PM AARC Coffee, Perkins Restaurant, 108 th & L Streets, Omaha, NE. |
| Oct 19 | 3:00 PM AARC Rabbit Hunt. More information in this issue. |
| Oct 23 | 7:30 PM PARC Meeting, 1900 E. Military Ave, Fremont, NE. |
| Oct 23 | 7:30 PM SWIARC Meeting, 705 N 16 th , Council Bluffs, IA. |
| Oct 28 | 6:30 PM AARC Directors' Meeting, Village Inn, 78th & Dodge St, Omaha, NE. <i>Ham Hum</i> article submission deadline. |
| Nov 6 | 6:30 PM LARC License Exam, Northside Cafe, 2701 N 48 th St., Lincoln, NE. |
| Nov 8 | 11:00 AM HBQRP, Bredeaux Pizza, 1425 Silver St., Ashland, NE. |
| Nov 8 | 1:00 PM BARC License Exam, 11111 S. 84 th St., Papillion, NE. |
| Nov 12 | 7:30 PM LARC Meeting, 4647 Superior St., Lincoln, NE. |
| Nov 14 | 7:00 PM AARC Meeting, Red Cross Building, 81 st & Spring St., Omaha, NE. |
| Nov 15 | 6:00 PM AARC Coffee, Perkins Restaurant, 108th & L Streets, Omaha, NE. |
| Nov 19 | 7:00 PM Heartland Hams, 403 Railroad Ave., Glenwood, IA. |
| Nov 20 | 7:30 PM BARC Meeting, Masonic Hall, 1908 Franklin St., Bellevue, NE. |
| Nov 25 | 6:30 PM AARC Directors' Meeting, Village Inn, 78th & Dodge St., Omaha, NE. |
| Nov 25 | 6:30 PM AARC License Exam, Red Cross Building, 81st & Spring St., Omaha, NE. |
| Nov 27 | 7:30 PM PARC Meeting, 1900 E. Military Ave, Fremont, NE. |
| Nov 27 | 7:30 PM SWIARC Meeting, 705 N 16 th , Council Bluffs, IA. |

For more details and the latest updates, see the *Calendar* section of the AARC web site (<http://www.aksarbenarc.org/>). If you know of an event of interest to other hams and want to see it here, please contact the *Ham Hum* editor or one of the AARC officers.

BOARD MEETING NOTICE

The next AARC Board Meeting is scheduled for October 28, 2014, 6:30 PM at the Village Inn on 78th and Dodge Streets. Unless noted otherwise, Board meetings take place at that time and location on the fourth Tuesday of the month. For any changes to this schedule, check for an announcement at the next club meeting, or on the AARC web page at <http://www.aksarbenarc.org/>.



Area Nets

Monday

7:00 PM 145.290 South-West Iowa ARES Glenwood, IA.
8:00 PM 144.250 NE Missouri SWOT.
9:00 PM 146.940 AARC Chat Net. Ak-Sar-Ben ARC Omaha, NE.

Tuesday

7:00 PM 147.360 QCWA Net, Chapter 210 (seasonal, October through March).
8:00 PM 50.200 6m SSB Net.
9:00 PM 145.310 Washington Co. ARES Washington Co, NE.

Wednesday

7:00 PM 146.670 Dodge Co. ARES Dodge Co, NE.
7:30 PM 7.122 CW Four State QRP Comfortable Net.
8:00 PM 3.564 CW Four State QRP Comfortable Net.
8:00 PM 145.310 Saunders Co. ARES Saunders Co, NE.
8:30 PM 7.122 CW Four State QRP Comfortable Net.
9:00 PM 3.580.5 PSK Four State QRP Comfortable Net.
9:00 PM 146.820 Pottawattamie County ARES Council Bluffs, IA.

Thursday

8:30 AM 7.122 CW Four State QRP 40M Morning Net.
7:30 PM 145.310- Lincoln/Omaha SATERN Net. Ashland, NE.
8:00 PM 28.350 10-Meter Net.
8:00 PM 144.250 2-Meter SSB Net.
8:00 PM 146.360 Heartland DX Association.
9:00 PM 28.305 10-Meter Net.

Saturday

12:00 PM 146.82 Swap Net Council Bluffs, IA.
8:30 PM 3.921.000 QCWA Chapter 20.

Sunday

8:00 AM 3.902.500 Swap Net.
8:30 AM 3.896.000 3900 Club.
8:30 PM 443.925+ (103.5 tone) IRLP Net.
9:00 PM 146.940- Douglas Co. ARES net, KØUSA repeater.

Please let us know of any updates or corrections to the above.

AARC Equipment Loaner Program

Ak-Sar-Ben Amateur Radio Club members who are in good standing and possessing an active FCC issued US Amateur Radio License may borrow one of two Icom HTs. Each radio is a basic two meter transceiver with an NiMH battery and charger. It is perfect for when you need to borrow a rig to help with that community service event, or if you are itching to get on the air as you shop for your new radio.

Other equipment includes an ARRL *Introduction to Morse Code* CD set and (in the near future) an MFJ-259B antenna analyzer. A policy for the antenna analyzer is still being set—see the AARC web page at <http://www.aksarbenarc.org/main/> for its status.

You can check out a radio for one month at any Club meeting and return it at the next. Alternately, you can contact the equipment committee at equipment-committee@aksarbenarc.org. For more details, see the AARC web page listed above.

de AARC Equipment Committee

(Club Meeting Minutes *continued from page 4.*)

Publications/Web Services

- *Ham Hum* - Bill, KCØSVZ - The *Ham Hum* was published on time and under budget. In the production process for this month's issue there were a number of reprimands issued to employees who were not pulling their own weight. Continued shortfalls will result in dismissals. There is an opening on the staff for the editor's position. There will be a sign-up meeting after the club meeting.
- Web Site - Mary, NØTRK - It's there and the club's Facebook page is public access.

Repeater Committee - John, WBØCMC - It's working. There was a stuck microphone push-to-talk button located and unstuck last weekend. The club accepts donations for any area repeater and forwards the money to the appropriate owner.

Field Day - There is no chairperson and it's over.

QSL and Technical Committee - Eddy, KØIL - no report.

Courtesy Committee - Bill, KEØXQ - It is reported with great sadness that long-time and very active club member Chuck Peaker, KCØDB passed away.

Trailer/Equipment Committee - Mary, NØTRK - We sold \$142 of club equipment at Flea-Esta. We had 3 amplifiers for sale with interest shown in all of them. The Ameritron solid-state, the Heathkit SB-200 and the home-brew amps are all for sale. Ads for them along with the TS-870S complete station should be appearing on the web site and *Ham Hum* soon. Some minor trailer work is being done.

Public Awareness - There will be a Mini-Maker Fare at the Durham Museum on Saturday September 13. Admission to the museum is \$9 and the Maker Fare inside is free.

Flea-Esta - Chris Rice - We're done. We had 118 attendees. The grand prize MFJ Antenna Analyzer was won by Mitch, WBØGBI. We probably lost money overall. We will have a full report soon.

Old Business - none.

New Business - none

Announcements - The Transmitter Hunt will be Sunday, September 14 at 3 PM.

- The Lincoln ARC Auction will be September 28. The Auctioneer will be Dave, NØGOZ.
- John, WBØCMC reported that this evening should be a good time to see northern lights due to the recent CME from the sun, reported to be one of the largest ever.

(Club Meeting Minutes *continued on page 6.*)

Announcements (continued)

- Jim, WBØBIK reminded everyone to keep their equipment safe and secure. His vehicle was broken into and much of his test gear, rigs and tools were stolen this week.
- Rollie, ABØNN announced that for tonight's door prize drawings what he couldn't provide in quality is made up for in quantity. The Mr. Reeh Door Prize and the Brown Bag Door Prize previously preserved from a prior meeting will be available tonight. All tickets purchased are held and used in the drawing at the December meeting for the Grand Door Prize.
- Coffee and cookies are available in the kitchen thanks to Don, WBØVGB. Please help yourself and donate to offset the cost of this.

At 7:31 PM a motion was made by John, WBØCMC, seconded by a number of people to end the meeting. So moved.

Bill WA9ASD, Secretary AARC

Want Ads

For Sale: Kenwood TS-870S AT (with DSP) HF Amateur band transceiver in VERY NICE shape with the original manual, matching PS-52 Power Supply, SP-31 speaker, and MC-80 desk mic. A great looking and performing radio! Read the details direct from Kenwood at this link: <http://tinyurl.com/km6cea6> Price: \$1,200.00. Contact an AARC officer at the next meeting, or send an email to the club web site at: <http://tinyurl.com/p55ckov>

For Sale: Anderson Power Poles I have some extra Anderson Power Poles (new). Too many to store in the parts drawers. These are the 30 amp variety. Price: \$1.00 per pair (1 Set of Black and Red connectors). Contact: Mary NØTRK at the next AARC meeting or email n0trk@arrl.net

Wanted: Icom IC-706, or IC-706MKII, or IC-706MKIIG Any model number. Should be working. Contact: Bill WA9ASD at the next AARC meeting, or email williamtrue@aol.com

Job Opening: Ham Hum Editor Position available in March, 2015. This is a fast-paced, hard-hitting job requiring great courage and iron nerves. Knowing how to use a spell checker is essential. Do you think you have what it takes? The club will supply you with the materials that you need to print and distribute the *Ham Hum*. You supply the red cape, ability to fly, see through walls, and bend steel in your bare hands. Contact Bill KCØSVZ at kc0svz@gmail.com or any club officer at the next meeting.

You may be a ham radio operator if...you have set your watch to UTC only.

November 2014

| | |
|----------------------------------|---|
| Ukrainian DX Contest | 1200Z, Nov 1 to 1200Z, Nov 2 |
| ARRL Sweepstakes Contest, CW | 2100Z, Nov 1 to 0300Z, Nov 3 |
| High Speed Club CW Contest | 0900Z-1100Z, 1500Z-1700Z, Nov 2 |
| DARC 10-Meter Digital Contest | 1100Z-1700Z, Nov 2 |
| ARS Spartan Sprint | 0200Z-0400Z, Nov 4 |
| NRAU 10m Activity Contest | 1800Z-1900Z (CW), 1900Z-2000Z (SSB) Nov 6 and 2000Z-2100Z (FM), 2100Z-2200Z, (Dig) Nov 6) |
| ARRL EME Contest | 0000Z, Nov 8 to 2359Z, Nov 9 |
| WAE DX Contest, RTTY | 0000Z, Nov 8 to 2359Z, Nov 9 |
| 10-10 Int. Fall Contest, Digital | 0001Z, Nov 8 to 2359Z, Nov 9 |
| JIDX Phone Contest | 0700Z, Nov 8 to 1300Z, Nov 9 |
| OK/OM DX Contest, CW | 1200Z, Nov 8 to 1200Z, Nov 9 |
| Kentucky QSO Party | 1400Z, Nov 8 to 0200Z, Nov 9 |
| CQ-WE Contest | 1900Z, Nov 8 to 0500Z, Nov 10 |

Sources: <http://www.hornucopia.com/contestcal/index.html> & <http://www.aksarbenarc.org>
If you know of an upcoming contest that should be published in the next *Ham Hum*, please send the information to the editor or an AARC officer during the regular meeting.

QCWA 2014 RARE COUNTY SPECIAL EVENT

Chapter 25 of the Quarter Century Wireless Association is pleased to announce the 2014 Nebraska Rare County Activation special event. It is designed to encourage amateurs both in and out of Nebraska to activate those Nebraska counties which are considered difficult to contact. The event is aimed at making the rarer Nebraskan counties available to county hunters: for example, those earning county hunter awards and/or interested in earning a Worked All Nebraska County award.

The activity will take place entirely on Saturday, October 11th. It will start at 8:00 AM CDT (1300Z) and end at 5:00 PM CDT (2200Z). The special event station, NEØQP, will be operating from some of the counties during this period.

A preliminary list of rare counties includes the following: Boyd, Knox, Garfield, Johnson, Loup, Rock, and Sioux. also, there will be an effort to activate Washington, Burt, Cumming, Johnson, Pawnee, Boone, Holt, Perkins, Chase, and Grant counties.

The general frequencies to be used in the special event are located near the County Hunter's Net frequencies:

CW: 7,056.5 14,056.5 21,056.5 kHz
SSB: 7,188 14.336 21,336 kHz

Possibly not all rare counties will be activated, and some at different times. Therefore, about two weeks prior to the activity we will post a Schedule of Operations with more details (call, county, time, band). Check the QRZ website (<http://qrz.com/>) for NEØQP (the QCWA Ch. 25 call sign).

Interested individuals and clubs are encouraged to contact Reynolds Davis, KØGND (email: ReynoldsD1@aol.com) so that we may post tentative operations schedules. Stations needing a specific county are also encouraged to contact KØGND; we will endeavor to activate that county if it is not already scheduled.

de <http://www.qcwa.org/chapter025.htm>

You may be a ham radio operator if...you regularly carry one or more tools in your pockets at any given time.

Contest Calendar

October 2014

| | |
|--|---|
| ARS Spartan Sprint | 0100Z-0300Z, Oct 7 |
| CWops Mini-CWT Test | 1300Z-1400Z, 1900Z-2000Z, Oct 8 and 0300Z-0400Z, Oct 9 |
| 432 MHz Fall Sprint | 1900 local - 2300 local, Oct 8 |
| RSGB 80m Club Sprint, CW | 1900Z-2000Z, Oct 8 |
| 10-10 Int. 10-10 Day Sprint | 0001Z-2359Z, Oct 10 |
| NCCC RTTY Sprint Ladder | 0145Z-0215Z, Oct 10 |
| NCCC Sprint | 0230Z-0300Z, Oct 10 |
| Makrothen RTTY Contest | 0000Z-0759Z, 1600Z-2359Z, Oct 11 and 0800Z-1559Z, Oct 12 |
| ARRL EME Contest | 0000Z, Oct 11 to 2359Z, Oct 12 |
| Oceania DX Contest, CW | 0800Z, Oct 11 to 0800Z, Oct 12 |
| Scandinavian Activity Contest, SSB | 1200Z, Oct 11 to 1200Z, Oct 12 |
| SKCC Weekend Sprintathon | 1200Z, Oct 11 to 2400Z, Oct 12 |
| QRP ARCI Fall QSO Party | 1200Z, Oct 11 to 2400Z, Oct 12 |
| Pennsylvania QSO Party | 1600Z, Oct 11 to 0500Z, Oct 12 and 1300Z-2200Z, Oct 12 |
| Arizona QSO Party | 1600Z, Oct 11 to 0600Z, Oct 12 and 1400Z-2359Z, Oct 12 |
| EU Autumn Sprint, CW | 1600Z-1959Z, Oct 11 |
| FISTS Fall Sprint | 1700Z-2100Z, Oct 11 |
| PODXS 070 Club 160m Great Pumpkin Sprint | 2000 local, Oct 11 to 0200 local, Oct 12 |
| North American Sprint, RTTY | 0000Z-0400Z, Oct 12 |
| UBA ON Contest, CW | 0600Z-0900Z, Oct 12 |
| NAQCC Straight Key/Bug Sprint | 0030Z-0230Z, Oct 15 |
| CWops Mini-CWT Test | 1300Z-1400Z, 1900Z-2000Z, Oct 15 and 0300Z-0400Z, Oct 16 |
| NCCC Sprint | 0230Z-0300Z, Oct 17 |
| 10-10 Int. Fall Contest, CW | 0001Z, Oct 18 to 2359Z, Oct 19 |
| Microwave Fall Sprint | 0600 local - 1300 local, Oct 18 |
| New York QSO Party | 1400Z, Oct 18 to 0200Z, Oct 19 |
| Worked All Germany Contest | 1500Z, Oct 18 to 1459Z, Oct 19 |
| Stew Perry Topband Challenge | 1500Z, Oct 18 to 1500Z, Oct 19 |
| South Dakota QSO Party | 1800Z, Oct 18 to 1800Z, Oct 19 |
| Asia-Pacific Fall Sprint, CW | 0000Z-0200Z, Oct 19 |
| UBA ON Contest, 2m | 0600Z-1000Z, Oct 19 |
| Illinois QSO Party | 1700Z, Oct 19 to 0100Z, Oct 20 |
| Run for the Bacon QRP Contest | 0100Z-0300Z, Oct 20 |
| ARRL School Club Roundup | 1300Z, Oct 20 to 2359Z, Oct 24 |
| CWops Mini-CWT Test | 1300Z-1400Z, 1900Z-2000Z, Oct 22 and 0300Z-0400Z, Oct 23 |
| RSGB 80m Club Sprint, SSB | 1900Z-2000Z, Oct 23 |
| NCCC Sprint | 0230Z-0300Z, Oct 24 |
| CQ Worldwide DX Contest, SSB | 0000Z, Oct 25 to 2400Z, Oct 26 |
| CWops Mini-CWT Test | 1300Z-1400Z, 1900Z-2000Z, Oct 29 and 0300Z-0400Z, Oct 30 |
| NCCC Sprint | 0230Z-0300Z, Oct 31 |

(Contest Calendar continued on page 11.)

DIGITAL MOBILE RADIO LINKS

I would like to thank everyone who attended the DMR presentation on Friday evening, September 12th. In response to questions, I'm providing links where additional information can be obtained:

Connect Systems CS-700 Portable Transceiver: (\$180.00 dollar radio):
<http://www.connectsystems.com/products/top/radios/%20CS700.htm>
(<http://tinyurl.com/pyjhrna>)

DMR-MARC World-Wide Network: <http://www.dmr-marc.net/>

DMR Users Database (as of September 13, 2014):
http://www.n6dva.org/trbo-database/trbo_users_view.php

DMR Repeater Database (as of September 13, 2014):
http://www.n6dva.org/trbo-database/trbo_repeater_view.php

If anyone has additional questions, please feel free to contact me via the Yahoo reflector (<https://groups.yahoo.com/neo/groups/AKSARBENTalk/info>) or at: wb0qqk@cox.net

73, Frank Vondra, WB0QQK

Saturday Night Coffee

There was a nice turnout for the September Coffee and Conversation get-together: Pat KØCTU, Bill KCØSVZ, Kristin KCØVYV, Mary NØTRK, Steve NØUP, Greg WØAAI, and Frank WBØQQK.

Much of the discussion was about DMR, who is using it locally, and how it compares to D-Star. Interlaced with that were comments about climbing towers, weather-related disasters, day-to-day police activity, AARC activities, *Star Wars* when it first appeared at Indian Hills theater, broken repeaters, jokes (colorful and otherwise), and small towns in Nebraska. In sum, an interesting evening.

The AARC Coffee get-together is held at Perkins restaurant at the corner of 108th and L Streets in Omaha on the third Saturday of the month, starting at 6 PM. Everyone is invited.

Bill KCØSVZ



TWITTER: ANOTHER TOOL IN THE HAM RADIO TOOLBOX

By Dan Romanchik, KB6NU

It all starts innocently enough. You get a computer to do your logging, and before you know it, you're working digital modes. Then, you snake an Ethernet cable down to the shack or connect to your wireless router. Pretty soon, you can't do without having a browser window open to one of the DX clusters or ReverseBeacon.Net or QRZ.Com or all three simultaneously.

Well, now there's another Internet service that I can't do without down in the shack: Twitter! I get on Twitter all the time now when I'm in the shack, and I love it. It's truly enhanced my amateur radio experience.

One of the ways it's done this is by bringing me all kinds of interesting technical information. I not only follow @hackaday and @DIYEngineering, and @EDN.Com, but a bunch of hams who are doing fun things. I hate to list some, for fear of leaving some out, but I will give a shout out to @NT7S, @AA7EE, @mightyohm, @caulktel, @LA3ZA. There's even @HiramPMaxim (the P stands for "parody"). If you go to my blog at KB6NU.Com and search for "From my Twitter feed," you'll find links to some of the most interesting Tweets that have found their way to me.

I'm also following a couple of amateur radio retailers. Today, for example, @DXEngineering is offering \$55 off the RigExpert AA-54 Antenna Analyzer.

I also use it to get information about weather conditions and band conditions. For example, I follow @edvielmetti, who is KD8OQG. He's always tweeting about local severe weather. A Tweet from him gets me to turn on my 2m radio to monitor the local SkyWarn net.

As far as band conditions go, I throw out a Tweet, asking about band conditions, and in seconds, I'll get reports from my followers here in the U.S. and around the world. I try to do my part as well. When I fire up the rig, I'll Tweet out a report of how the bands seem to me.

While all of this is great, it's really all about the people. I currently have more 2,200 followers and I follow more than 900. I would never have met some of these hams if it wasn't for Twitter, and I have since worked several of them on the air after first meeting them on Twitter. Last May, we had a "Tweetup" at the Dayton Hamvention. There were at least 20 of us there. How cool is that?

Twitter isn't for everyone, but I'd encourage you to give it a try. I'm having a lot of fun on Twitter, and I think you will, too. If you do set up a Twitter account, please follow me, @kb6nu. If you mention that you read this column, I'll be sure to follow you back.

When not Tweeting about his latest amateur radio exploits, you'll find KB6NU working 30m CW or teaching ham radio classes. If Twitter isn't your thing, you can still follow him by reading his blog at www.kb6nu.com.

(DMR and MOTOTRBO continued from page 1.)

Neil went on to talk about the theory behind digital signal processing, including FDMA (Frequency Division Multiple Access), TDMA (Time Division Multiple Access), and embedded signaling techniques, among others. He also gave an overview of testing DMR audio quality, along with photos of lab equipment, software, and test procedures. This included recordings that compared DMR to D-Star under various conditions, such as weak signal and high background noise.

Following Neil's technical presentation, Frank took over to describe the history of DMR, its growing popularity, hardware availability, and how it's networked. He pointed out its advantages: superior RF performance, affordability, greater battery life, mobile roaming functionality (auto handoff from one repeater to another), and two different voice channels from one repeater (TDMA).

Frank described the DMR repeater architecture and compared it to an analog repeater—which requires nearly twice the hardware. He talked about how the DMR repeater system originated in the United States with the Motorola Amateur Radio Club (DMR-MARC). It started with only a handful of people and has now grown to over 800 repeaters and 9000 users in 22 countries since 2009.

Frank concluded his talk by describing other developments, such as talk groups, a test reflector for checking the quality of your signal, a DMR Sandbox talk group (used for experimenting with new features), plus others.

A hands-on session of DMR followed the talks. Frank, Neil, and Kevin Faris, KIØPY, demonstrated how two radios could share the same channel on a repeater without interfering with each other: Frank (and later Pat KØCTU) was talking on one channel to George KBØZZT in Independence, Kansas, while Kevin, on the other channel, was talking to another station on a worldwide talk group. They simultaneously connected to someone in Ohio and carried on a three-way conversation. In all cases, the audio was very clear.

In all, it was an extremely interesting and educational evening. If you'd like to get in on this branch of ham radio, you can find contact information on page 7 and a list of repeaters below. Also, you can see a video of the entire talk (courtesy of Russ NØMNW) on the AARC web site. Go to <http://www.aksarbenarc.org/> and click on the *Videos* link in the left column.

Bill KØSVZ

NEBRASKA DMR-MARC [KØBOY] REPEATER SYSTEM

| | | |
|--------|---------|---|
| KØBOY | 442.650 | (I-480 & Harney Street – Omaha, Ne) |
| KCØHYI | 442.775 | (Nebraska Highway 50 – Weeping Water, NE) |
| KBØZZT | 442.275 | (1500 Wayne Street – Bellevue, NE) |
| WBØQQK | 442.425 | (13 th & O Street – Lincoln, NE) |
| KIØPY | 444.975 | (105 th Street & I-80 – Omaha, NE) |
| WAØRJR | 442.800 | (Nebraska City, NE) |
| WØAAI | TBA | (158 th & West Maple Road – Omaha, NE) |