



# The BAARCer



September 2014

For Anyone Interested in Amateur Radio

Page 1 of 8

**Club Call Sign: WØUJ**

**BAARC REPEATERS**

53.110 MHz- 123.0 Hz  
**147.225 MHz+** (main rpt)  
 145.130 MHz- Echo Link  
 Node number 233515  
 443.925 MHz + 110.9 Hz  
**Packet:** 145.670 MHz  
**MNBRD, BRDBBS**  
 144.390 **WØUJ-5 APRS**  
**Crosslake** 147.03 MHz+  
**Crosby** 146.700 MHz+  
 Tone 127.3  
**Crosby** 444.925 MHz +  
<http://brainerdham.org>  
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**Club's Picnic and Foxhunt—Lum Park, 8-23-14—Photo by KØLFV**



**Pictured standing (l-r): Mitch KDØHJ, Dylan KDØLFE, Doug KDØERE, John WØWY, Roger WØWUG, Rick WUØS, Erik KDØAGA, Orcy WØQT, Shirley KØDCW, Al WØRC, Margo KK4DXE. Kneeling are (l-r) Terry KIØFW, Tim KDØYLO, and Ethan (Margo's grandson —soon to be a ham!). Not pictured here are Marilyn Amundson, Lyle KØLFV, and Fritz WØKO. More pix & text on page 2. Foxhunt: Terry KIØFW, organizer, said the first to find the fox was Mitch KDØHJ. The fox's antenna was horizontally polarized making it more challenging. Congrats to Mitch and the 5 after him in the hunt. A big thanks to Lyle for making all arrangements.**

**— Events Calendar —**

**Sat., Sept. 6. Club Brkfst. @ 9 @ Northwind Grille in Brd.**

**Sat., Sept. 20, Club Brkfst. @ 9 @ Northwind Grille in Brd.**

**Thurs., Sept. 25, Club Meeting: Board @ 4 and Membership @ 7 @ Fire Hall.**

Check the Club's Website and Activity Calendar

**Listen for Activity Updates on our Sunday Night Nets**

Encourage New Membership: Dues are still only \$20/year—a bargain for all you get. E-mail Doug for info: [djbdesk@gmail.com](mailto:djbdesk@gmail.com)

**Annual BAARC Picnic held in lieu of the regular monthly meeting:** The weather cooperated, but turned a little cooler as the day wore on. Nevertheless, all seemed to have fun. WØKO provided the photos on this page.



Tim KDØYLO (r) strung up a 20m dipole and operated SSB from the site. Above, on the left is Shirley KØDCW chatting with Marilyn, XYL of Lyle KØLFV. It was just beginning to cool off at that time—thus the need for jackets and hood.



Rick WUØS with son Erik KDØAGA enjoying their lunch. Lyle KØLFV (in blue) chatting with Tim KDØYLO across table.



On the left are Al and Lyle chatting while Tim (standing in front of his station chimes in). Lyle did the organizing of the event by making the arrangements at Lum Park—as usual. We thank him for doing that again. In fact, he had his portable 2m station was going well before 1000 at the site. On the right is Fox Hunt Organizer Extraordinaire Terry KIØFW. Year after year he puzzles the sleuths in the hunt. It takes skill to hide the fox and to hunt it. Next year he wants to be a hunter for change. Can someone take his former role? Thanks again, Terry.



## DX and the Paper Chase

Another 30 days have elapsed and summer is on the wane. Band conditions are what we make them. Just because the numbers fail to jive with good propagation etc...is no reason to abandon your quest for DX or rag chewing for that matter. I've been chasing a station in Afghanistan (T6T) for the past year and a half without results. My chase ended 4 weeks ago when the station was heard on 17 meters. His signal was too light for me to break the pileup, so I just waited for the band to pick up and—it did. Remember my saying that patience is one of the primary virtues when chasing rare DX and in this case it worked. I got him on SSB and the contact was confirmed when he asked me my name. The operator has a very marginal radio station using a dipole with a tuner. It was really a thrill to get this one as I reset my DX goal to DXCC Honor Roll, and T6T is the first one towards that goal. Now here's the rest of the story. T6T QSL manager is a station in Russia—not a problem. I ordered Russian stamps for the SASE and my card was on the way. About a week later I received an e-mail from the Russian QSL manager saying, "The envelope obtained without paying for an answer." This is a direct quote of what he wrote in his broken English. Okay, sometimes that's the way it is, and you have to roll with the punches. Along with the message was his PayPal account number requesting \$3.50 USD. Actually, it gave me pause to smile because \$3.50 goes a long way in Russia. Vasiliy is happy, I'm happy and the beat goes on. This was one of those great experiences that working DX has given me over the years. Don't forget to sit down at your station and call CQ because someone somewhere is listening for your call. So long for now from my station in Huntersville, 73 es gud DX from Bob/WØZPE.

### Forestview's HAB CLUB had Success Again

Well, the Forestview HAB Club had another very successful balloon launch on Tuesday, Aug. 19th. It was the sixth such launch for the school. Jim Reed and Cory Olson are the two teachers from the school who started and maintained the Club—both very talented teachers. The sixth balloon was launched about 9:00 AM on Tuesday and everything went very well. There were two APRS trackers on board, two video cameras, one still camera, and one Pocket Finder. All devices worked perfectly for the first time.

As we chased the balloon's path, we were a little concerned because the ascent was not as fast as expected, so we headed to Buckman, MN (just south of Pierz) and waited until we could determine the actual path the balloon was taking. After much anticipation and waiting and watching, the balloon continued to climb and show its path. It was determined that it would land just west of Buckman by a couple of miles—but not until it reached a NEW record height of 113,080 feet. Everyone was very thrilled with this new record. The balloon's actual path was very near the predicted one. The only unknown at the time was the flight time, which was longer than anticipated.

We then tracked it down using the Pocket Finder to a wild life management area with very tall grass. It was a nice soft landing, and the payload was not damaged and was recovered intact.

The video and still cameras stayed running during the whole flight and produced some amazing pictures. Also the video camera was able to capture the balloon burst, another first.

Please check out the entire HAB link as Jim has posted some great pictures and now has an edited video on the site. Do a **CTRL/CLICK** on the link below to go their website.

**Again, thanks to Al and Shirley Doree—WØRC and KØDCW for helping the HAB Club out and for providing this report to the BAARC.**

[http://hab.forestviewmultimedia.com/flights/06\\_flight.html](http://hab.forestviewmultimedia.com/flights/06_flight.html)

## A Brief History of ARES

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As we celebrate one hundred years of the ARRL, we've reached a seminal moment in time when we are sparked to reflect on the past while looking to the future with a sense of inquiry and wonder. That has certainly been the theme of the ARRL's centennial celebration this year. *QST* has featured fascinating look-backs at pivotal points in the League's and Amateur Radio's history this year, with more to come. Continuing this theme, let's take a brief look at the role of Amateur Radio in public service, disaster, and emergency communications over the past hundred years.

In the early days, Amateur Radio and hams were considered irritations and nuisances to the "real" communicators - the commercial sector and the military. We were almost outlawed, and ultimately relegated to the "useless" frequencies of "200 meters and down." That was until it was demonstrated that we could actually be of use as a service. In 1913, college students/hams in Michigan and Ohio passed disaster messages when other means of communications were down in the aftermath of severe storms and flooding in that part of the country. A Department of Commerce bulletin followed, proposing a dedicated communications network of radio amateurs to serve during disasters. Five special licenses were reportedly issued. A magazine article noted that amateurs - who were once considered nuisances - were now considered to be essential auxiliary assets of the national public welfare.

The ARRL was formed in 1914, and disaster response communications as provided by radio amateurs became organized and useful. In 1920, Amateur Radio was used to help recover a stolen car, of all things! Soon, the use of Amateur Radio for natural disasters that we traditionally think of now emerged with hams active in deadly flooding in New Mexico and an ice storm in Minnesota.

More organization followed, with an "MoU" emerging with the American railroad system for Amateur Radio support when the railroad's wire lines were down: There was an ARRL Railroad Emergency Service Committee. There was even a Q-signal designated: *QRR*, a kind of land SOS.

More reports of disaster response communications provided by amateurs appeared in *QST*, much as they do here in this newsletter today. A major New England flood had amateurs supplying the only efficient means of communications from the devastated areas to the outside world, prompting the chairman of the Federal Radio Commission to say the future of radio depends on the amateurs.

Hams worked with the Burgess Battery Company for emergency radio power. Many of us old-timers including myself have used those batteries when we were kids for our crystal radio kits; they looked like tall, thick candle columns!

More organization followed, and traffic handling was recommended as the best way to gain discipline and proficiency to prepare for the efficiency and effectiveness needed in response communications situations.

ARRL Field Day was started to prepare amateurs for portable operation, as was necessary in disaster situations when commercial power and means of communications were down.

In 1935, the ARRL Emergency Corps was formed with the goal of having an Amateur Radio Emergency Station in every community -- a goal that remains just as urgent today as it did then! To wit, just look at today's emphasis on the neighborhood and community as "first responder" and on self-reliance in the post-disaster survival chain.

More "served agencies" emerged as potential partners, including the Red Cross. In 1936, major flooding across a 14-state region served as the ARRL Emergency Corps' first major testing, serving well, and solidifying Amateur Radio's status as a critical disaster response communications asset and public service. Communications operating protocols and the appointment of Emergency Coordinators followed.

Technical advances supported this evolution. Spark gap transmitters gave way to the vacuum tube, making portable operations more viable. Articles on portable transmitters and receivers appeared in *QST*. Exploration and experimentation in the VHF region also spurred more development of portable equipment. The development of the variable frequency oscillator or VFO, something that modern generations of hams take for granted, was at the time a liberating breakthrough offering more versatility and flexibility, and more efficiency of course in meeting the demands of a disaster response communications situation.

World War II meant a shut-down of Amateur Radio, but many hams joined the War Emergency Radio Service, which did provide some communications during the war period for natural disasters. After the war, the ARRL reconstituted its disaster response communications programs and networks, and the first Simulated Emergency Test was run in 1946.

Throughout the communications continue to evolve, ebb and flow. This evolution is fueled by advances in Amateur Radio.

The Cold War followed, and the Radio Amateur Civil Emergency Service (RACES) was formed by the government for civil defense (CD) purposes, the forerunner of the modern emergency management model that we know so well today.

Throughout the sixties and later up to today, the role, procedures, protocols, equipment and techniques of Amateur Radio in public service, disaster and emergency communications continue to evolve, ebb and flow. This evolution is fueled by advances in Amateur Radio technology and its application, lessons learned from each and every incident that involves amateur communications support. - *K1CE, based on an excellent article by Gil McElroy, VE3PKD, that appeared in September 2007 QST -- QRR: The Beginnings of Amateur Radio Emergency Communications*

### **Notable Events on the Timeline of Amateur Radio Disaster Communications**

Far from an exhaustive list, here are a few events involving Amateur Radio communications support over the past hundred years that may help define our role over time and its evolution. **1906** - Radio amateur Barney Osborne, later W6US, provides emergency traffic handling during the San Francisco Earthquake and fire, according to family lore. **1913** - Hams provided emergency communications during Midwest storms and floods with spark gap transmitters and crystal receiver sets, as vacuum tubes wouldn't emerge until after World War I and 1919. **1916** - A national traffic relay system was organized to provide relay of messages cross-country, and 9XE in Illinois originated a message that was received in California in 55 minutes and on the East Coast an hour after that. **1926** -- The cover of the May issue of QST featured a drawing of a railroad engineer holding an ARRL radiogram with the caption reading "Amateurs Give Emergency Service for Railroads When Wires Are Down" **1920s** - A motor provided emergency power to the plates of newly-invented vacuum tubes in a station of an "RM" - a "Radio Man" - during a Mississippi flood. **1925** - Amateur Radio provided the only communications (5 watts CW) during the failed rescue attempt of caver Floyd Collins. **1933** - Radio amateurs at W6BYF provided disaster communications for the Long Beach, California earthquake. Although his house was demolished, famous ham Don Wallace, W6AM, operated a portable station through his surviving extensive antenna farm with the help of the Navy in supporting the relief effort. **1935** - Predecessors to ARES established. ARRL had a vision of them in 1917. **1936** - The catastrophic floods of the northeast (from Maine through to the Ohio River valley) wrecked the ARRL HQ station in Hartford (along the Connecticut River), with Amateur Radio again providing support. Famous VHF pioneer and ARRL HQ staffer Ed Tilton, W1HDQ and his wife provided communications. **1937** - Dr. Joseph Vancheri, W8BWH, was a key relief communications asset, arranging for aid to refugees from the Johnstown floods. **Late 1930s** - Commercial emergency Amateur Radio gear appeared and was advertised: an example was the battery-powered 50-S transmitter from Harvey Radio Laboratories of Brookline, Massachusetts. **1948** - Flooding of Vanport, Washington, after the rupture of a Columbia River dike prompted an Amateur Radio Emergency Corps response under EC W7DIS, with amateurs using hand-held radios (walkie-talkies). **1957** - RACES was involved in providing communications support during the Malibu-Topanga Canyon (California) fires. Deputy Chief Radio Officer W6QJW operated under RACES tactical call sign CPT19 and controlled a net on 3995 kHz. The Gonset Communicator was an iconic Cold War/Civil Defense portable transceiver. **1964** - The Great Alaskan Earthquake hit Anchorage, drawing a massive amateur response in handling emergency and health-and-welfare traffic. It was the most powerful earthquake in North American history, and the second most powerful in recorded history of the world. There was sweeping destruction in the city and the region. George Hart, W1NJM, wrote about the amateur response in the July 1964 issue of QST: 314 Alaskan amateurs supported the disaster relief effort, with 1200 more from around the rest of the country actively supporting them. "KL7DVY reports he operated 20 hours on two meters, relaying messages from the Alaska Native Hospital to c.d. headquarters in Anchorage." **See the August 2014** issue of QST, Public Service column, "Alaska Shield 2014." **1979** - Hurricanes Frederic and David wrought destruction on the Gulf Coast and East Coast, respectively. Amateur Radio support of relief efforts was in evidence in both cases.

**That brings us up to the modern era and the emergence of the contemporary emergency management model. A few of the major events beginning in the eighties that come to mind are Hurricanes Gilbert (1988) and Hugo (1989), and the spate of four hurricanes in 2004 that affected us here in Florida extensively. Hurricane Andrew (1992) also wreaked incredible devastation in Florida. Hurricanes Katrina (2005) and Sandy (2012) were game-changers for emergency management thinking and policy for this country. Amateur Radio was extensively involved in all cases. And, of course, Amateur Radio was involved in the colossal relief effort in the aftermath of the 9/11 attacks.**

*[Much of the above was culled from an excellent presentation given at the ARRL Pacificon Convention in San Ramon, California, 2010, by Bart Lee, K6VK, ARRL State Government Liaison, ARRL Volunteer Counsel, Historian and Archivist, California Historical Radio Society, and lecturer, Antique Wireless Society. A tip of the ARRL fedora to him. - K1CE*

## A Century of Amateur Radio and the ARRL

A comprehensive and fascinating article on long-delayed echoes (LDEs) appeared in the February 1970 *QST*. LDEs are signals that have been transmitted, go away somewhere, and then are heard -- at low signal levels but often with good readability -- 10 or more seconds later. They were first heard on the ham bands in 1927. An article in the May 1969 *QST* described them and asked for reports from readers who had heard them. The 1970 follow-up article summarized more than 40 reports. A May 1971 *QST* article later reported on more than 90 observed LDE events.

The effort to get more amateurs on the VHF and UHF bands continued, with *QST* publishing articles on 432 MHz transmitters, 220 MHz kilowatt amplifiers, state-of-the-art low-noise receiver preamplifiers, new propagation modes and how to use them, portable beams for 2 meter mountain-topping, and more.

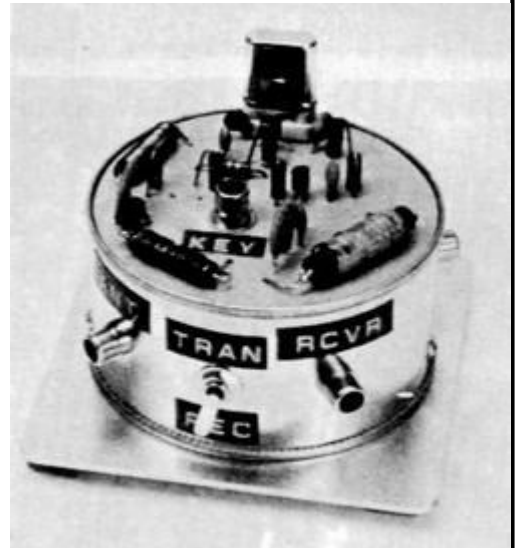
The number of hams using very low power -- QRP -- also continued to grow, with equipment and portable HF antennas featured in *QST* articles, as well as reports of QRP use by hikers and mountain-climbing hams.

Repeaters for 2 meter FM operation were becoming very popular, and their numbers were growing rapidly. *QST* described how to build repeater duplexers, control equipment, antennas, and control links, and it kept repeater control operators informed of relevant FCC rules as they were developed.

Amateur Radio satellites continued to attract more and more attention. *QST* articles provided information to encourage and help hams get up and running on the satellites. Topics covered in those many articles included how to plot satellite orbits, build beams that could be rotated in both azimuth and elevation, construct circularly polarized beams, determine when you can use the satellites for contacts over a given path, along with other tips and information. As each new OSCAR was built and launched, *QST* carried announcements and information on how to use it.

A nice article on "The \$22,000,000.00 Ham Shack" appeared in the April 1970 *QST*. No, it wasn't an April Fool's article. It told of the first flight of the new Boeing 747, with WA7IBL using one of the aircraft's radios to make HF SSB contacts.

As the 1970s rolled along, many homeowners purchased hi-fi and stereo audio equipment. Most consumer electronic equipment was not built to reject interference from ham transmitters, however. Articles in *QST* during the 1970s told hams how to deal with those interference issues. In 1970, the much-anticipated Heath SB-220 HF kilowatt linear amplifier came on the market, with a selling price of \$350. As transistors' performance continued to improve, homebrew solid-state equipment became progressively more popular. *QST* reported on many interesting projects that used transistors, including VFOs, QRP rigs, receivers and receiver preamplifiers, transmitting linear amplifiers, and accessories. -- Al Brogdon, W1AB

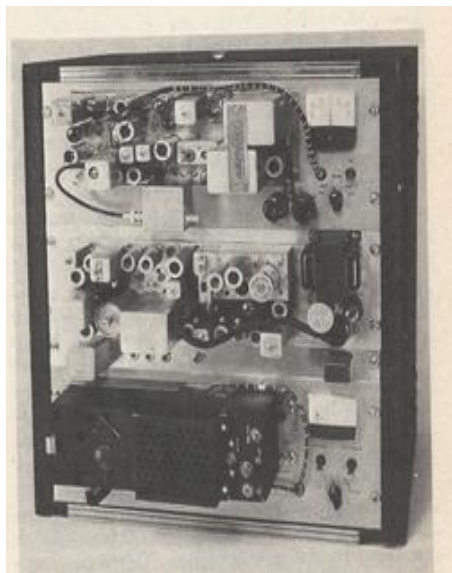


A May 1976 *QST* [article](#) by Doug DeMaw, W1CER, described how to build the Tuna-Tin 2 QRP transmitter for 40 meters.

**2014 Lakes Country Triathlon—BAXTER (Kiwanis of Baxter—sponsor)** : We had 11 volunteers at the Baxter Triathlon August 24th. They were as follows: Marwin KDØVLK (a new ham); Jan KDØRAV, Tom KDØMOM, Tim KDØYLO, Lyle KØLFV, Terry KIØFW, Shirley KØDCW, Al WØRC, Orcy WØQT, John WØWY, and Dave KBØSCT. We had a few sprinkles early in the Triathlon with the cloud cover keeping everyone from overheating. In addition, the three segments were uneventful. Then at 11:45 a.m. we cleared Whipple Beach. **Our thanks to all the ham participants and to Dave KBØSCT for submitting this information. He was also the Net Control Station.**

## A Century of Amateur Radio and the ARRL

The FCC made numerous rules changes during the 1970s -- some major, and many minor. The Commission had to work hard to keep up with rapidly advancing technology as well as with call sign matters. Major changes included relaxed logging requirements, which had always been stringent. The first rules governing repeaters were released. Novices were allowed to use VFOs, not just crystal control. The 2 meter sub-band for Technicians was expanded, allowing operation between 145 and 148 MHz. Phone allocations on the HF bands were widened. In 1973, the FCC reduced to 1 year the time you had to have been licensed before applying for the Amateur Extra class license. As repeaters became more popular and more common, the FCC started issuing WR-prefix call signs for repeater stations (these were phased out in the 1980s). In 1976 and 1977, the FCC, in steps, began allowing Amateur Extras to apply for specific 1 × 2 call signs. The first Extras allowed to apply were those licensed the longest. This system preceded the current vanity call sign system and was purely a bonus for hams who had reached the top rung of the licensing ladder. In 1977 the FCC dropped the mobile and portable operation ID requirements and further expanded Technician privileges on 2 meters to permit operation from 144.5 to 148 MHz. Technicians also gained privileges on the Novice sub-bands. Novices were allowed to run up to 250 W, and even higher-class licensees were limited to that power while operating in the Novice segments. As the ham radio population grew, the pool of available call signs became shallow, and the FCC started issuing 2 × 2 call signs (beginning with W) to Amateur Extra licensees.



In 1978, Novice licenses became renewable, with a 5-year term. The FCC eliminated the Conditional license; those licensees became Generals. Technician licensees gained all amateur privileges above 50 MHz. Because so many CB operators were using linear amplifiers to "enhance" their 5 W signals, the FCC outlawed commercially manufactured amplifiers that could operate between 24 and 35 MHz. The FCC also dropped the requirement to obtain a new call district-appropriate call sign when moving from one district to another. During the late 1970s, the FCC had to work hard to keep up with ham radio! *N.B. ON THE LEFT IS A TYPICAL 2-METER REPEATER OF THE 1970'S WITH VACUUM TUBES UNDER THOSE METAL CYLINDERS. THE UNUIT HAPPENES TO BE A GE PROG LINE TRANSMITTER AND RECEIVER DECKS.*—From the ARRL

### NPR Program Featured WRTC2014

The National Public Radio weekend program "Only a Game" with host Bill Littlefield [featured](#) World Radiosport Team Championship 2014 ([WRTC2014](#)) during its August 9 broadcast. WRTC2014 Co-Chair Randy Thompson, K5ZD, said the program segment reporter-producer Karen Given "did a great job" in capturing the essence of the July event.

"If anything, I felt the piece was flying by in her attempt to capture so much of what was going on," he told ARRL.

Thompson said one of the goals of WRTC2014 was to use the international competition as a platform to promote Amateur Radio and radiosport. "Only a Game" is produced by WBUR in Boston. The WRTC2014 website includes a [compilation](#) of media coverage of the event. (ARRL)

**SUNDAY NIGHT NET OPERATORS**

09-07-14	Rick	NØBJN
09-14-14	Dave	KCØTGT
09-21-14	Tim	KDØYLO
09-28-14	Tim	KDØYLO
10-05-14	Rick	NØBJN
10-12-14	Dave	KCØTGT
10-19-14	Tim	KDØYLO
10-26-14	Tim	KDØYLO

Can't make the schedule? Find a substitute operator. BAARC Sunday Night Net Control Coordinator is Fritz WØKO. To volunteer: w0ko "at" arrl.net

**Can you be the NCS on a regular Sunday every month? Some above have volunteered already. Thanks to all of them!!!!**

**Congratulations to a New General Class Licensee: Dave KDØVJL** passed his big test with flying colors in early August. Now he can enjoy more radio privileges. **Shop Amazon?** Now you can also help the ARRL by indicating that it is your favorite charity when making purchases from Amazon. Nothing else has changed about the website. <smile.amazon.com> **Happy Labor Day:** On this holiday we honor the many men and women who have labored for this country and, along with capital, made it great in the eyes of the rest of the world. As Americans we have much to be thankful for and owe our workers, both union and non-union, a big thank you for helping build a great nation. **Ask Congressman Rick Nolan to co-sponsor/support HR 4969.** It would allow hams to operate under their current CC&R's. Too many hams can't have visible antennas in restrictive developments. You can send an e-mail or call his Brainerd office M-Th. 218 454 4078 or use this URL <nolan.house.gov/>

United We Stand



**First Class Mail**  
Address Correction Requested

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