The Ham Arundel News

Providing Fellowship and Community Service through Amateur Radio Since 1951

June 2016 ***38th Year of Publication***

The Prez Sez…

Well, it's suddenly turned into summer as it tends to do around here. One week it's pleasant in the 70's, then it's humid and in the low 90's. Typically Mid-Atlantic transition – if you can even call it a transition…

So the arrival of the hot and humid must mean that Field Day approaches! Yes, in about a month we will be enjoying the great outdoors for a weekend as we try and make contacts from our Field Day stations. I'm looking forward to it, as I'm sure you are as well. It is comforting to know that we as hams can setup up a station in austere conditions and still make contact throughout the country. No infrastructure, just some radios, a power source, and wire antennas and we're connected.

Of course, it takes a lot of folks to make this happen, as those of you who've volunteered before can attest. We will need a group to help with setup on Friday and takedown on Sunday. If you can get a kitchen pass for one or both activities, it would be greatly appreciated.

Speaking of opportunities to volunteer, we still need someone to coordinate antennas and someone for rigs. I've asked before, and I'm asking again. This stuff doesn't just happen by itself, and about half of the board members have already signed up to coordinate various aspects of Field Day, including our Field Day overall coordinator, Giff Hammar. I'll be the Safety Czar this year, something we actually get points for if we implement AARL's safety objectives. Meanwhile, there's still a need for some of you to step up and help us out. Giff can mentor the antenna coordinator, as he built most of the new antennas last year. Getting the rigs set up and insuring we have enough isn't rocket surgery, but someone needs to coordinate this and work with Giff on a plan for keeping stations on the proper bands. Neither of these positions require you to stay for the entire weekend, mostly pre-planning, setup, and takedown. Naturally we'd like to see you there and operating as much as you can.

So come on folks, Field Day is a club activity and we need club members to make it happen. If people aren't interested, we don't have to participate – we can all just work from home. But I know we all look forward to this weekend and have tons of fun making contacts. Please consider helping out by volunteering for these last two critical positions so we can pull everything together without overloading the folks who have already volunteered. You can volunteer with a friend and tag-team the position if you'd like. Really, it's not that hard, there's plenty of mentoring available, and we need your help. Field Day participation is a chance to reach out to the community and show them what we're about and how much fun this is as well. It also is one of the many things that keeps our ARRL Special Service Club status which few clubs earn, and which identifies AARC as one of the premier clubs in the state.

If you are willing to join the Field Day team and coordinate antennas or rigs, please let myself or Giff Hammar know. We've only got a month left, and these are critical positions if we're going to have a successful weekend.

After months of being mobile-less, I finally had time this weekend to get my rig installed in my new car. Waiting on a mount for the control head, but I can just leave it lying about for now. Running the antenna wire from the rear lip mount up front was an adventure, but the fish tape is your friend. If anyone needs to know how to remove trim panels and the back seat cushions from a Subaru Crosstrek, I'm your man… Next up – moving the HF station from the electronics workroom to the den now that space has become available there. I don't mind working out of a storage/workroom, but this will be much nicer and I should be able to get on HF more. That might take more than a weekend, especially if I decide to build a custom table/desk to hold the station. Meanwhile, I'll browse the interwebs and look at what others have put together for a modest HF station and see if that generates any ideas. If you'd like to share a photo of your station, start a topic and drop a picture in the forums. I think most hams really enjoy looking at what others have put together for their stations. There's almost always something you'll learn from it that might solve an issue with your setup.

In closing, I hope you remembered those who made the ultimate sacrifice this Memorial Day. Those that have served and those that have lost ones who served deserve our reflection, our thoughts, and our thanks not just today but throughout the year.

An EPIRB Story

How we woke up people from Maine
to Florida in the middle of the night
Giff Hammar / K1GAH

"Yacht PHOENIX, yacht PHOENIX this is Coast Guard New Zealand, Coast Guard New Zealand," so started one of the more interesting conversations we've had over the radio.

We were about 20 nautical miles off the northern tip of North Island *en route* New Caledonia, in 25-30 knots of wind and 5-7 meter seas, it was pretty chilly, overcast, and almost sunset. That pretty much describes the situation. We had a reef in our main sail and were heading north at about 10-12 knots. The seas were mostly astern of us, so we weren't pounding into them, but it was still an active ride – close to the mechanical bull you can ride in Texas bars.

The rest of the conversation went something like this:

PHOENIX: Coast Guard New Zealand this is Yacht PHOENIX, go ahead.

CGNZ: Yacht PHOENIX Coast Guard New Zealand what is your position and status?

PHOENIX: This is Yacht PHOENIX we're off North Point and heading to New Caledonia.

CGNZ: Yacht PHOENIX Coast Guard New Zealand what is your current latitude and longitude?

PHOENIX: Our current latitude and longitude are: 34-21.5S 173-28.5E.

CGNZ: Roger 34.21.5S 173-28.5E. What is your current status?

PHOENIX: We're sailing NNW at 10-12 knots. The mast is up and the keel is down. No problems on board.

CGNZ: Roger. You're sailing NNW at 10-12 knots and everything is okay on board.

PHOENIX: Roger. We're fine.

CGNZ: Roger. Would you mind turning your EPIRB off?

PHOENIX: Roger. Stand by while I check it. (short break) Coast Guard New Zealand, it got washed overboard when we took a big roll about an hour and a half ago. It's not on board, so I can't disable it.

The conversation continued for another 10-15 minutes, covering several other topics like going back to the location and retrieving it and setting up a communications schedule on HF. We didn't have a receiver capable of tuning to the EPIRB frequency, nor did we have any kind of DF antenna we could have used, so going back was not in the cards. Eventually, they launched a helicopter to get it out of the water. We donated the EPIRB to their training facility so they had a live EPIRB they could show their students.

The COSPAS-SARSAT (search and rescue satellite) system was originally a joint venture between Russia and the US and uses a set of MEO (medium Earth orbit) satellites that are equipped with Doppler position finding sensors and decoders that gather information encoded in the beacon signal, and geostationary satellites. Once the satellite receives a beacon signal, it sends it to a geostationary satellite, which forwards the info to its servicing ground station.

The EPIRB uses a 5W 406 MHz transmitter that has battery capacity for transmitting a full power signal for at least 48 hours in 0°C water at the end of it's five year shelf life. When we bought the EPIRB, we had the choice of a standard or GPS enabled model. We opted for the GPS version because it provided a faster and more accurate fix than depending upon the satellite to triangulate the position.

I'm not sure whether our particular signal was handled by the New Zealand or an Australian ground station, but the system matched our information against the beacon database and notified the US Coast Guard (since we are a US flagged vessel), who called our emergency contacts promptly at 2 AM. The lookup and notification are completely automated and occur in a matter of seconds (much faster than it took to read this paragraph). Once the US Coast Guard verified that we were, in fact, underway, they relayed the case to Coast Guard New Zealand, who, in turn, tried to reach us. The phone calls in the US took an hour or so, and that accounted for the time between when the EPIRB went over the side and when Coast Guard New Zealand called us on the marine VHF radio.

Once they were satisfied that we weren't in trouble, they agreed to a twice-daily communications schedule on HF. After I got off the radio with CGNZ, I sent a quick e-mail to everyone with WinLink letting them know that we were fine. Coast Guard New Zealand notified the US Coast Guard that everything was fine on board, who in turn, notified everyone here that things were okay. Between the e-mails and phone calls, everyone got notified. My Mom probably had a few more gray hairs in the morning, but otherwise got through it just fine. What we were doing didn't really sink in for one of our HAM friends in Maine until he got called in the middle of the night asking about our status. From that point, our trip became "real" to him. We maintained our HF communications schedule until we arrived in New Caledonia.

From our Coast Guard experience, we knew how SARSAT worked, but we'd never been on the originating end of things. I've been sent out to find someone who had activated an EPIRB, though. The accompanying photo shows the EPIRB in its bracket right near the companionway so that it's readily accessible, but not in the way or subject to accidental activation. I'm glad we have the equipment, but I don't want to be in a situation where I need to activate one.

We learned a couple of things from our experience:

1. Don't mount the EPIRB in a location too close to the water.

2. Use a good mount that won't easily break or wash away.

3. Response times are really good, even when you're in remote places (although the Kiwis don't think they're remote).

From Wikipedia: A Basic Understanding

EPIRBs are tracking transmitters which aid in the detection and location of boats, aircraft, and people in distress. A **PLB** (personal locator beacon) is particular type of EPIRB that is typically smaller, has a shorter battery life and unlike a proper EPIRB is registered to a person rather than a vessel. The terms **ELB** (emergency locator beacon) and **ELT** (emergency locator transmitter) are used interchangeably with EPIRB only when used on aircraft. Strictly, they are radiobeacons that interface with worldwide offered service of Cospas-Sarsat, the international satellite system for search and rescue (SAR). When manually activated, or automatically activated upon immersion or impact, such beacons send out a distress signal. The signals are monitored worldwide and the location of the distress is detected by non-geostationary satellites doppler trilateration and in more recent EPIRBs also by GPS.[2]

The basic purpose of a distress radiobeacon is to help rescuers find survivors within the so-called "golden day"[3] (the first 24 hours following a traumatic event) during which the majority of survivors can usually be saved.

Since the inception of Cospas-Sarsat in 1982, distress radiobeacons have assisted in the rescue of over 28,000 people in more than 7,000 distress situations.[4] In 2010 alone, the system provided information which was used to rescue 2,388 persons in 641 distress situations.[5]

Most beacons are brightly colored and waterproof. EPIRBs and ELTs are larger, and would fit in a cube about 30 cm (12 in) on a side, and weigh 2 to 5 kg (4.4 to 11.0 lb). PLBs vary in size from cigarette-packet to paperback book and weigh 200 g to 1 kg (½ to 2½ lb). They can be purchased from marine suppliers, aircraft refitters, and (in Australia and the United States) hiking supply stores. The units have a useful life of 10 years, operate across a range of conditions −40 to 40 °C (−40 to 104 °F), and transmit for 24 to 48 hours.[6] The cost of radiobeacons varies according to performance and specifications.

Notes:

1. ITU Radio Regulations, Section IV. Radio Stations and Systems – Article 1.93, definition: *emergency position-indicating radiobeacon station*
2. What happens when I activate my beacon?
3. Community Emergency Response Team Participant Handbook
4. *"SAR statistics". Retrieved 9 Oct 2012.*
5. *"Rescue Stories". Retrieved 9 October 2012.*
6. [1]

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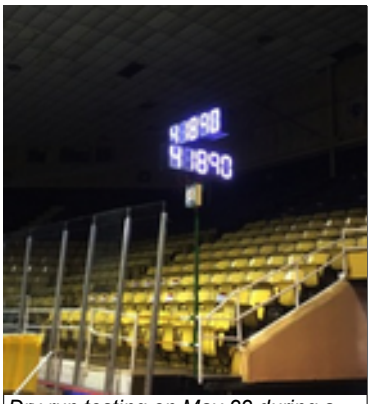
New LED Prize Numbers Display to Debut at Hamvention® 2016

The Sunday afternoon Grand Prize drawing at Hamvention 2016 will feature a bright new LED display that will present winning ticket numbers as they are drawn. It will be visible throughout the main arena, where the prize drawing takes place. Hamvention 2016 Assistant Prize Chair Bill Serra, N8NRT, said a lot of work went into crafting the innovative device, which was the brainchild of the sponsoring Dayton Amateur Radio Association (DARA) "Thursday Night Group." Serra said more than a dozen DARA members participated in the project, which took 8 months from concept development to final assembly and delivery -- just in time for this week's show.

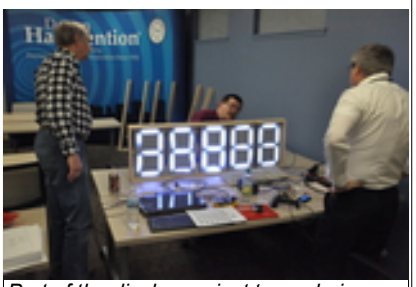


Dry run testing on May 22 during a final tryout at hara Arena. [Tom Holmes, photo]

The project "followed hard on the heels of complaints from our Sunday afternoon Hamvention audience," Serra wrote in the May 2016 edition of DARA's *RF Carrier* newsletter. "Many had difficulty hearing ticket numbers as they were called over the facility sound system."

The Thursday Night Group hit on the idea of a dazzling, seven-segment, Arduino-driven LED display. The system includes ticket barcode-scanning capability to automate the process of delivering accurate information to an expectant audience. From that point, planning progressed to figuring out how to get numbers from the scanner in the Prize Booth to the display, which involves more than might meet the eye.

"Everything from power requirements to the number of wires needed, not to mention consideration for assembling the system easily and storing it from one year to the next," Serra explained. "The folks at Hara Arena were especially cooperative, especially Rue Wampler, who helped us with several ideas and tests that proved critical to the success of the project."



Part of the display project team during design and debugging: (L-R) Ed Fix, W8BFT; Steve Reed, KB8STB, and Keith Yarger, KD8UYT. [Ron Decker, KC8DSC, photo]

Project lead Tom Holmes, N8ZM, noted that some members even took on "homework," including Programmer Keith Yarger, KD8UYT, who accomplished some of his coding chores on the road during business trips, in order to help speed the project to completion.

"This was truly a collaborative effort and would have been difficult to achieve without the entire group's mental and physical efforts," Serra said in his article. Some research on the Internet determined that a comparable system could have cost as much as $10,000, but the DARA team did it for about 10 percent of that amount. Hamvention General Chairman, Jim Tiderman, N8IDS, expressed his appreciation and said that having the LED display to announce ticket numbers during Hamvention's Sunday drawing would ease his mind, as well as the minds of the Prize Committee chair and assistants. -- *Thanks to Bill Serra, N8NRT*

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VE Testing Schedule

Second Saturday of each month –
Noon – AARC – Steve Kelly / K3BAY 410-975-6246
k3bay@comcast.net
Third Saturday of each month – 9AM – Laurel ARC **–** John Creel, 301-572-5124
Fourth Tuesday of each month – 6PM – MMARC – Mike Montrose / KA2JAI 443-310-4907 web site is tinyurl.com/marylandmobileers

To all exams bring:
- Picture ID
- Social Security Number or FCC Registration Number (FRN)
- **ORIGINAL** and a **COPY** of current FCC amateur radio license

ORIGINAL and a COPY of all element credits (eg., FCC letters, old licenses or unexpired Certificates of Successful Completion of Examination-CSCE)

Rare de Forest Audion Donated to ARRL, Mated with Vintage Radio for Museum Display

An ARRL member from Virginia has donated a rare de Forest "round bulb" Audion vacuum tube to the League, which has paired the groundbreaking triode with a de Forest receiver of similar vintage. Walt Bain, W4LTU, recently wrote ARRL Headquarters to see if the League would give the antique tube a home. Radio pioneer Lee de Forest filed his first patent for the Audion in 1907, describing it as a detector of sound, and he is generally credited with having invented the vacuum tube. First used as the detector in the de Forest Audion Receiver, the Audion subsequently was heralded as the world's first electronic amplifying device. Bain, who is 86, said he inherited the Audion from his father, George Bain, a graduate of Wesleyan University in Connecticut in the 1920s, who went on to work for Westinghouse.

The de Forest Audion. [Bob Allison, WB1GCM, photo]

"In the 1930s he was chief engineer at Ken-Rad Tube and Lamp Company," Bain told ARRL. "He would have met de Forest anytime during college, at Westinghouse, or Ken-Rad." This particular Audion likely dates back to the early 1910s and appears to be a somewhat later version of the device that de Forest had submitted on his patent application a few years earlier. An intact Audion such as this one is considered extremely rare.

ARRL Lab Test Engineer Bob Allison, WB1GCM, who curates the League's museum collection, accepted the Audion and had it installed on the League's own de Forest Audion Receiver, which lacked a tube. "Each year, we have about 2000 visitors to the Lab; they will get to see that tube," Allison said. The League's Audion Receiver bears the patents of de Forest's Radio Telephone and Telegraph Company.

The de Forest Audion in its natural habitat, installed in a de Forest Audion Receiver. [Bob Allison, WB1GCM, photo]

The Audion's three elements are clearly visible within the blown-glass envelope. Connections to the Audion's rectangular plate and squiggly grid were made via wires exiting one end of the bulb. The other end features a candelabra-style lamp base, which screws into a socket, providing the filament connection. The Audion is mounted with the lamp base up, to prevent the filament from sagging and touching the tube's other two elements.

In developing the Audion, de Forest had built on the work of John Ambrose Fleming, who invented a two-element vacuum tube in 1905. De Forest discovered that applying a radio signal to a grid instead of to the filament, or cathode, would yield a more sensitive RF detector. De Forest came up with the idea of using a series of Audions to enhance their amplifying capabilities, an attribute American Telephone & Telegraph company capitalized upon, after securing de Forest's patents.

In time, vacuum tubes supplanted solid-state mineral detectors in radio receivers, although in a "what goes around, comes around" turn of events, solid-state devices called "transistors" replaced the vacuum tube in the 1950s and 1960s. Today's iPhones have the equivalent of 2 billion transistors packed inside.

Used with permission, The ARRL Letter, 12 May 2016

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Hollywood Producer, ARRL Patron Dave Bell, W6AQ (SK)

Award-winning Hollywood producer and ARRL benefactor Dave Bell, W6AQ, of Encinitas, California, died on May 13. He was 84 and had been a radio amateur for 65 years. Bell had been suffering from cancer and was in hospice care. An ARRL Life Member and a former chair of the ARRL Public Relations Committee, Bell directed Amateur Radio Today and produced several other ham radio-related promotional videos and films, starting with The Ham's Wide World, a TV documentary filmed in black and white.

"If I have a claim to fame in Amateur Radio, it's probably that I produced the first television documentary about ham radio that got worldwide distribution, and then I made several others before I 'retired' from the ham radio film/video hobby-within-a-hobby and got busy making a living producing TV movies, specials, and documentaries for all of the networks including HBO and Showtime, and made a couple of theatrical feature films - Nadia and The Long Walk Home," Bell recounted on his QRZ.com profile. He started TV's Unsolved Mysteries, and he received an Emmy Award in 1985 for Outstanding Drama/Comedy Special, Do You Remember Love. Bell chronicled his filmmaking and his Amateur Radio and professional lives in a memoir, World's Best Hobby.

Last year, Bell and his wife Sam, W6QLT (she's a quilter), donated a signed Andy Warhol print to the ARRL. The artwork - "Myths: Superman 1981" - sold at auction last fall for $150,000. The proceeds are being used to create "The Dave Bell, W6AQ, Endowment Fund" to benefit the League.

Bell also produced The World of Amateur Radio, This is Ham Radio, and Moving Up to Amateur Radio. He directed the Amateur Radio Today video in 2002. The short presentation about emergency preparedness was narrated by former CBS Evening News anchor Walter Cronkite, KB2GSD (SK), written by Alan Kaul, W6RCL, and produced by Bill Pasternak, WA6ITF (SK) and Bill Baker, W1BKR. Bell and Pasternak also created The DIY Magic of Amateur

Radio in 2011, and he co-produced The ARRL Goes to Washington, also voiced by Cronkite. Working on his own, Bell filmed videos for the World Radiosport Team Championship (WRTC) events in 2000 in Slovenia (The Ham Radio Olympics) and in 2002 in Finland.

A DXer, casual contester, and a past president of the Southern California DX Club, Bell was a frequent speaker at Amateur Radio gatherings. He was named the 1984 Ham of the Year at Dayton Hamvention, and, in 2003, the ARRL presented Bell with its first

Lifetime Achievement Award for his work on films and videos about Amateur Radio. In 2011 he was named to the CQ Amateur Radio Hall of Fame.

Heil Sound Ltd's Bob Heil, K9IED, called Bell "one of the great ones." Heil said Bell's "great smile and laughter" and his "generosity to the hobby" would be missed, "but most of all, we will miss his spirit."

From the QRZ.com page for W6AQ we learn: "One of my TV Movies won an EMMY as best movie, and also a Peabody. My docs have won numerous film festival awards. Hey, if you don't blow your own horn, who's gonna? Some of the ham radio films were titled THE HAMS WIDE WORLD, THE WORLD OF AMATEUR RADIO, THIS IS HAM RADIO and MOVING UP TO AMATEUR RADIO (for CBers during that craze). The ARRL has all of the preceding films plus AMATEUR RADIO TODAY and the original B&W live television show also entitled THE HAM'S WIDE WORLD on one DVD. Now there is a nostalgia trip. It's available as a package with my book only from ARRL. I've also helped Bill Pasternak, WA6ITF and the late Roy Neal, K6DUE with a couple of their ham films. Most recently, in 2002 I officially came out of ham-radio-film retirement to direct AMATEUR RADIO TODAY, a 6 minute video about emergency preparedness which is downloadable from the ARRL Website. I hear it's been downloaded about 20,000 times, which is great. It is narrated by Walter Cronkite, KB2GSD, (who was a very nice guy, incidentally and more than just casually interested in amateur radio) written by Alan Kaul, W6RCL, produced by Bill Pasternak, WA6ITF, and Bill Baker, W1BKR, and edited by Keith Glispie, WA6TFD." (W6AQ)

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Design Advances Make Portable Operation Easier, More Fun

By Dan Romanchik, KB6NU

I've just returned from the Dayton Hamvention. Dayton was a blast as usual, and if there's one thing I took away from this year's event it's that portable operation is not only becoming more popular, but more sophisticated as well. In fact, it's a virtuous circle. More sophisticated portable equipment is making portable operation more popular, which is spurring manufacturers to make more sophisticated equipment, which is making portable operation even more popular, and around we go.

This is perhaps most easily seen in the evolution of the Elecraft products. One of their first rigs was the K1, a small rig that was frequently toted out into the field, even though it wasn't really designed for that purpose. It had a small form factor, but had a conventional front panel layout.

The next evolution was the KX1. This CW-only radio was designed specifically for field work. It originally only covered 40m and 80m, and had a very limited front panel, but its built-in battery pack and KXPD1 paddle made it a great choice for portable operators when it was introduced in 2004.

A big leap forward was made when they introduced the KX3 in 2012. This radio combined a bunch of features never before found in a portable rig. The KX3 features an SDR architecture and covers all modes, including (SSB, CW, Data, FM, AM); used the same full-sized LCD display as the K3; has advanced DSP features; and can be connected to a computer via USB for firmware upgrades and for use with other ham radio software. The KX3 is so full-featured that many operators use it as their main rig with a suitable linear amplifier.

At Dayton 2016, Elecraft took this concept even further and introduced the KX2. It's about half the size of the KX3, but yet has almost all of the features of the KX3. There was a tremendous amount of buzz over this radio at Dayton among portable operation aficionados. The base price of the KX2 is $750, and with options, will cost you about $1,000.

Of course, Elecraft isn't the only company competing in this market. LNR Precision sells a radio called the LD-5, and at Dayton, they introduced the LD-11, which like the KX3 and KX2 features an SDR architecture and covers 160m - 6m. This radio goes for about $800, and has also proven to be popular among portable operators.

Dayton also had a number of exhibitors that supplied products other than radios to aid portable operation. There were several portable antenna manufacturers, including Buddipole (buddipole.com) and PackTenna (packtenna.com), and BiEnno Power (biennopower.com) was also there, showing off their new lithium-iron batteries,

While radios like the KX2 and LD-11, at relatively low prices, allow operators to easily get out into the field, portable operation would not be as popular as it is without organized activities. Programs like the Summits on the Air (SOTA, www.sota.org.uk, na.sota.org) and the National Parks on the Air (NPOTA, npota.arrl.org) make portable operation even more fun. These programs do this by providing a structure in which operators can find one another and gain awards for operating. SOTA did not have a booth at Dayton, but NPOTA was a big part of the ARRL section there.

If you aren't already a portable operator, you should give it a try! You don't have to invest a bunch of money in a rig to just try it. KX1s have been had for less than $400, and simpler QRP rigs cost a lot less. Getting outside and operating in the fresh air is a lot of fun and could give you a whole new perspective on amateur radio.

73
Dan, KB6NU

Dan, KB6NU, is the author of the "No Nonsense" amateur radio license study guides, and blogs about amateur radio at KB6NU.Com, and you can contact him by e-mailing cwgeek@kb6nu.com. Listen for him operating his KX1 from the park or beach this summer.

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Editor: Milford Craig / N3WYG
Send newsletter articles, questions and information to **Milford** at **newsletter@w3vpr.org**
Deadline for submissions – The Saturday after the 3rd Thursday of the month

Mailing Address:
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Meetings:
General Business 1st Thursday at 7:30 PM
Board Meeting 2nd Thursday at 7:30 PM
Program/Activity 3rd Thursday at 7:30 PM

Dues:
$30 per year, payable December 1st
Discounts available for family members and students

World Wide Web: **www.w3vpr.org**

AARC Supports The Maryland Slow Net:
3.563 MHz CW 7:30 P. M. Daily

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Free Money for AARC!
ARRL Membership Reminder

ARRL affiliated clubs receive a commission for every new ARRL membership and renewal they submit to ARRL Headquarters. Clubs retain a portion of the dues for each regular or senior membership submitted to ARRL Headquarters:

Clubs retain $15 for each new membership OR lapsed membership (of two years or more).
Clubs retain $2 for each renewal,
A RENEWING MEMBER can renew at any time, even before their current membership expires.

Send your application and payment (made out to AARC) to the club treasurer.

Mark Your Calendars

REGULAR ACTIVITIES

Club Meetings are held on the first and third Thursdays of the month from 7:30 to 9PM at the clubhouse located at the Davidsonville Family Recreation Center in Davidsonville, MD

Free License Exams every 2nd Saturday of the Month - Check in at Noon, Exams at 1PM - At the clubhouse - Contact Steve/K3BAY k3bay@w3vpr.org

Weekly AARC 2-Meter Net on 147.105 (Typically linked to 147.075 and 444.400) every Wednesday at 8 PM - All Welcome

2 meter Morning Commuter Net on 147.105 (Typically linked to 147.075 and 444.400) every morning 6:30 to 9 This is the famous Holly-net. Pre-Holly-net starts at 5 AM or so.

Mesh working group 1 to 4 PM Every 2nd Sunday at the clubhouse, Contact Giff/K1GAH - Broadband HamNet a/k/a HSMM

Kit-building, troubleshooting and repair 1 to 4 PM Every 4th Sunday at the clubhouse Contact Raven/KB3MUV **(Cancelled for June)**

EVENT SCHEDULE

02jun16 (Thu) *- Club meeting at 7:30 PM, newcomers always welcome.*
04jun16 (Sat) *- Sixth free class to earn your FCC General License (Ham radio license.) At the clubhouse 8:30 to Noon.*
09jun16 (Thu) *- Board meeting at 7:30 PM (We have an open meeting policy)*
11jun16 (Sat) - *(free) Exams for your FCC amateur radio license, every second Saturday of the month.*
12jun16 *The Mesh Networking Group meets today.*
16jun16 (Thu) *- Club meeting at 7:30 PM, newcomers always welcome.*
25jun16 (Sat) *- Setup for Field Day. Setup runs from 8 AM to 2 PM, with a BBQ meal served at noonish.*
25-26jun16 (Sat-Sun) - Field Day. This is the AARC's biggest event of the year! Please stop by and visit. Field Day runs for 24 hours, from 2 PM Saturday all the way to 2 PM Sunday. We need operators, we need visitors, come join us. Pizza around dinner time provided by Forno Bova Pizza.

W1AW 2016 Spring/Summer Operating Schedule

Morning Schedule:

Time	Mode	Days
1300 UTC (9 AM ET)	CWs	Wed, Fri
1300 UTC (9 AM ET)	CWf	Tue, Thu

Daily Visitor Operating Hours:

1400 UTC to 1600 UTC - (10 AM to 12 PM ET)
1700 UTC to 1945 UTC - (1 PM to 3:45 PM ET)

(Station closed 1600 to 1700 UTC (12 PM to 1 PM ET))

Afternoon/Evening Schedule:

2000 UTC (4 PM ET)	CWf	Mon,Wed, Fri
2000 " "	CWs	Tue, Thu
2100 " (5 PM ET)	CWb	Daily
2200 " (6 PM ET)	DIGITAL	Daily
2300 " (7 PM ET)	CWs	Mon,Wed, Fri
2300 " "	CWf	Tue, Thu
0000 " (8 PM ET)	CWb	Daily
0100 " (9 PM ET)	DIGITAL	Daily
0145 " (9:45 PM ET)	VOICE	Daily
0200 " (10 PM ET)	CWf	Mon,Wed, Fri
0200 " "	CWs	Tue, Thu
0300 " (11 PM ET)	CWb	Daily

Frequencies (MHz)

CW: 1.8025 3.5815 7.0475 14.0475 18.0975 21.0675 28.0675 147.555

DIGITAL: - 3.5975 7.095 14.095 18.1025 21.095 28.095 147.555

VOICE: 1.855 3.990 7.290 14.290 18.160 21.390 28.590 147.555

Notes:

CWs = Morse Code practice (slow) = 5, 7.5, 10, 13 and 15 WPM
CWf = Morse Code practice (fast) = 35, 30, 25, 20, 15, 13 and 10 WPM
CWb = Morse Code Bulletins = 18 WPM

CW frequencies include code practices, Qualifying Runs and CW bulletins.

DIGITAL = BAUDOT (45.45 baud), BPSK31 and MFSK16 in a revolving schedule.

Code practice texts are from QST, and the source of each practice is given at the beginning of each practice and at the beginning of alternate speeds.

On Tuesdays and Fridays at 2230 UTC (6:30 PM ET), Keplerian Elements for active amateur satellites are sent on the regular digital frequencies.

A DX bulletin replaces or is added to the regular bulletins between 0000 UTC (8 PM ET) Thursdays and 0000 UTC (8 PM ET) Fridays.

Audio from W1AW's CW code practices, and CW/digital/phone bulletins is available using EchoLink via the W1AW Conference Server named "W1AWBDCT." The monthly W1AW Qualifying Runs are presented here as well. The CW/digital/phone audio is sent in real-time and runs concurrently with W1AW's regular transmission schedule.

All users who connect to the conference server are muted. Please note that any questions or comments about this server should not be sent via the "Text" window in EchoLink. Please direct any questions or comments to w1aw@arrl.org.

In a communications emergency, monitor W1AW for special bulletins as follows: Voice on the hour, Digital at 15 minutes past the hour, and CW on the half hour.

FCC licensed amateurs may operate the station from 1400 UTC to 1600 UTC (10 AM to 12 PM ET), and then from 1700 UTC to 1945 UTC (1 PM to 3:45 PM ET) Monday through Friday. Be sure to bring your current FCC amateur license or a photocopy.

The complete W1AW Operating Schedule may be found on page 103 in the April 2016 issue of QST or on the web at, http://www.arrl.org/w1aw-operating-schedule .

FCC Action Anticipated on ARRL's "Symbol Rate" Petition for Rule Making

The FCC has put "on circulation" its decision on the ARRL's *Petition for Rule Making* (RM-11708), seeking to change the Amateur Service Part 97 rules to delete the symbol rate limit in §97.307(f) and replace it with a maximum bandwidth for data emissions of 2.8 kHz on amateur frequencies below 29.7 MHz. Proceedings on circulation are pending action by the full Commission, although there is a current backlog, and FCC action is not likely in the near future. ARRL General Counsel Chris Imlay, W3KD, said the League has remained patient.

"While we had hoped for more responsive handling, it is understood that the large number of comments from radio amateurs on the *Petition* took some time to sort out," he said. "It was good to note that the Wireless Telecommunications Bureau has circulated a draft of what we presume to be a *Notice of Proposed Rule Making* responsive to our *Petition* to the Commissioners for their consideration. We hope to see the proposal released soon."

In its petition, the League asserted that the changes proposed would "relieve the Amateur Service of outdated, 1980s-era restrictions that presently hamper or preclude Amateur Radio experimentation with modern high frequency (HF) and other data transmission protocols" and would "permit greater flexibility in the choice of data emissions."

Symbol rate represents the number of times per second that a change of state occurs, not to be confused with data (or bit) rate. Current FCC rules limit digital data emissions below 28 MHz to 300 baud, and between 28.0 and 28.3 MHz to 1200 baud. "Transmission protocols are available and in active use in other radio services in which the symbol rate exceeds the present limitations set forth in §97.307(f) of the Commission's Rules, but the necessary bandwidths of those protocols are within the bandwidth of a typical HF single sideband channel (3 kHz)," the ARRL pointed out in its 2013 petition. At one point, the League's petition topped the FCC's list of "Most Active Proceedings," attracting hundreds of comments.

Meanwhile, the Amateur Radio community continues to await action on ET Dockets 12-338 and 15-99 that would spell out service rules for the new 2200 and 630 meter Amateur Radio bands. The FCC was expected to issue a *Report and Order* last fall. That subsequently got moved back to the first quarter of 2016, which also has slipped.

Regulatory provisions under consideration have included a possible notification requirement by some radio amateurs to utilities that operate PLC systems in that region of the spectrum, prior to their starting operation on either new band. Utilities use unlicensed PLC systems to control parts of the electrical power grid.

Earlier this year, the ARRL has asked the Commission not to adopt overly broad requirements to notify utilities in advance of intended Amateur Radio operation on the pending bands. The Amateur Service would gain access to 135.7-137.8 kHz (2200 meters) and 472-479 kHz (630 meters). Both bands have been used by numerous Experimental (Part 5) licensees, and the ARRL's WD2XSH 600 Meter Experiment continues.

Used with permission from The ARRL Letter, 5 may 2016

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Missouri Radio Amateur Petitions FCC to Designate "Symbol Communication" Subbands

James E. Whedbee, N0ECN, of Gladstone, Missouri, has petitioned the FCC to designate Morse (radiotelegraphy) Amateur Radio band segments as "symbol communication" subbands. The FCC has invited comments on his *Petition for Rule Making* (**RM-11769**), filed on May 2. Arguing that retaining the current regime of "legacy" CW subbands has proven to be grossly inefficient, Whedbee said he'd like to see the FCC delete all privilege restrictions that limit any part of the Amateur Radio spectrum to Morse code to the exclusion of other modes.

"Nostalgia for retention of Morse code telegraphy-only subbands is also an insufficient reason to avoid moving forward to [the] elimination of such subbands, because nothing about this *Petition* suggests the elimination of the mode itself, only that it not be the sole authorized mode in the subject subbands," Whedbee told the FCC.

Whedbee characterized CW-only subbands as "an excessive regulatory constraint, as well as a poor use of the spectrum concerned." He proposed that the FCC's Part 97 rules reflect the "ultimate form of communication reproduced at the receiving end." As he explained it, his regulatory scheme would break down modes into three categories — "symbol communication mode" — for CW, digital, and other emission modes that reproduce a discrete symbol on the receiving end — "voice mode," and "image mode."

"[C]ontinuing regulation by specific emission designator is proving to be onerous with changes to the state of the art," Whedbee said. "Accordingly, to continue developing the state of the art in radiocommunications, Amateur Radio needs to clearly get away from regulating in that fashion and return to consideration of what the receiving end of the communication reproduces."

He proposed that where the Part 97 rules refer to exclusive radiotelegraphy allocations — or subbands — privileges be changed to reflect symbol communication modes. Where the rules prohibit voice and image modes, he would revise the rules to reflect symbol communication modes. In situations where current rules prohibit symbol communication modes other than Morse, that voice and image modes would be permitted, "with an exception for manually keyed" radiotelegraphy.

For example, he would drop the distinction between 75 meters and 80 meters, authorizing symbol communication modes between 3.5 MHz and 3.65 MHz, and voice and image modes between 3.65 MHz and 4 MHz, with manual radiotelegraphy authorized throughout the band.

Whedbee told the FCC that, if his *Petition* is accepted for filing and put on public notice, he would submit an appendix spelling out proposed service rules as part of his *Petition*.

Commenters have 30 days to respond to Whedbee's *Petition*.

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ARRL MDC Section Manager :
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VE Testing Schedule

Second Saturday of each month –
Noon – AARC – Steve Kelly / K3BAY 410-975-6246
k3bay@comcast.net
Third Saturday of each month – 9AM – Laurel ARC **–** John Creel, 301-572-5124
Fourth Tuesday of each month – 6PM – MMARC – Mike Montrose / KA2JAI 443-310-4907 web site is tinyurl.com/marylandmobileers

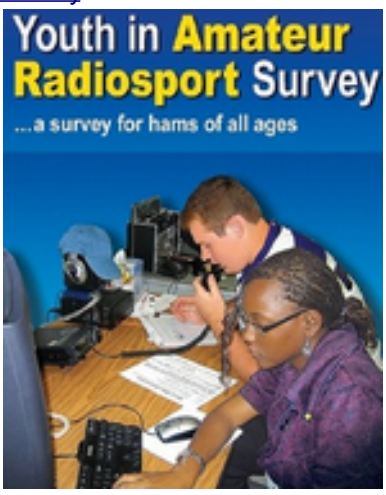
To all exams bring:
- Picture ID
- Social Security Number or FCC Registration Number (FRN)
- **ORIGINAL** and a **COPY** of current FCC amateur radio license

ORIGINAL and a COPY of all element credits (eg., FCC letters, old licenses or unexpired Certificates of Successful Completion of Examination-CSCE)

Youth in Amateur Radiosport

ARRL Contest Advisory Committee Conducting Youth in Amateur Radiosport Survey

The ARRL Contest Advisory Committee (CAC) has been looking into how to attract more youngsters and youth into Amateur Radio contesting, and it has invited all hams, and especially young people, whether or not they're already radio amateurs, to take the Youth in Amateur Radiosport Survey.



"Please spread the word about the survey among your ham friends and local radio and contest clubs," said CAC Chair George Wagner, K5KG, adding that the CAC would like to see more young people engaged in "the thrill and challenge of competitive ham radio contesting -- also called 'radiosport.'" Wagner and fellow CAC member Glenn Johnson, W0GJ, plan to hand out survey announcement cards at Dayton Hamvention® -- Johnson at the NCDXF booth and Wagner at Carole Perry's, WB2MGP, Youth Forum and at the ARRL Youth Rally.

As an initial step, the CAC is gathering information about where and how young people are currently involved in radiosport. It's contacting ham radio clubs, contest clubs, private schools, international youth ham radio organizations, and the general public. The committee is using surveys, focus groups, and even face-to-face meetings to check "the lay of the land" about youth and radiosport in today's world, Wagner said.

Radio contests grew out of attempts in the early 1900s to transmit and receive signals across the Atlantic, essentially the beginning of the use of the "short waves" to span such long distances. Contests have allowed hams to practice message handling -- used during emergency communication -- as well as to gauge their own operator proficiency and their station's performance. Over time, contests grew and flourished to the point where many hams today pursue contests as their primary ham activity.

"For those who participate in radiosport, it provides a thrill that's often compared to roller coaster rides or video gaming or big game hunting," commented CAC member Don Daso, K4ZA. "There's just something about contacting a great number of people all over the world as fast as possible, or talking to someone -- just like yourself, at a station like your own -- on the opposite side of the world, and doing it without using a giant infrastructure or even a huge outlay of money."

Like many types of competitions, this "sport," Daso said, can be addictive.

The survey will continue to accept input until August 31. Scan the QR code above, or visit the online survey to participate.

Used with permission, The ARRL Letter, 5 May 2016

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NEW: A RASPBERRY PI NET

Anyone playing around with the Raspberry Pi single board computer? Experimenting with Amateur Radio applications with it? ... Or want to?

If so, then you might be interested in the Central Maryland Raspberry Pi Net that is on two-meter FM every Tuesday night. I am helping a new ham and South Carroll High School student, Kyle Thornton, KC3FMP, get the Net up and running. You are invited to participate with us Tuesday evenings on the Westminster repeater, K3PZN/R, courtesy of the Carroll County ARC. The frequency is 145.410 MHz FM with a CTCSS of 114.8 Hz, at 8:00 p.m. local time. Some of our projects with the Raspberry Pi that are currently being worked on are, in this order:

1. Getting the latest version of the Linux Raspbian (Jessie) operating System running well on each of our little $35 computers first, so that we are all starting on the same sheet of white paper, so to speak. Although the desktop looks a lot like MS Windows, we are all learning a little bit of Linux to boot.

2. Then we get a copy of the (free) satellite tracking and prediction software, called GPredict, up and running on the Raspberry Pi. A simple step, all for the fun of it and experience gained in installing software.

3. Next, we install a copy of the (free) digital communications software called FLDigi on the RPi. FLDigi is widely accepted for ham radio Emergency Communications as well as fun on the air waves. This part is easy enough. But the next step is to interface the Pi running FLDigi to an HT or any transceiver available, through a low-cost (around $10) "soundcard interface." If needed, it is available through Amazon.com and/or whatever rig-keying interface you have on hand or want to build. We have personal on-air help for all this stuff!

4. Branching out after these steps can be any number of projects, depending on the individual.

Me? I am setting up a low-cost "Outernet" system at my home to receive no-cost DBS Ku-band satellite data from the Galaxy 19 geostationary satellite. I use a 90cm dish not unlike the ones you see on house rooftops for DirectTV and DISH. See <https://outernet.is/> for info.

Others are getting the (free) program called DIRE WOLF to use for packet radio which replaces the TNC in software.

Still others are making the "PiRate" radio out of their Raspberry Pi to serve as a (free) Fox Hunt transmitter!

We talk about these topics and help each other with any needed troubleshooting.

Do one or more of these projects interest you? If so, please join us! You are invited to the weekly Central Maryland Raspberry Pi Net. Tuesday eves on the Westminster repeater, K3PZN/R, courtesy of the Carroll County ARC, on 145.410 MHz FM with a CTCSS of 114.8 Hz, at 8:00 p.m. local time.

As seen on <http://www.qis.net/~k3pzn/>.

Hope to see you on the air! Cheers, Pat Kilroy, N8PK, <patrick.l.kilroy@nasa.gov>

Used with permission MDC Section News, 13 May 2016

HamFests

BARC FATHER'S DAY HAMFEST
Date: Sunday, June 19, 2016
Location: Arcadia Volunteer Fire Company Grounds
16020 Carnival Avenue
Upperco, MD 21155
Website: <http://www.w3ft.com>
Sponsor: Baltimore Amateur Radio Club
Type: ARRL Hamfest
Talk-In: 146.67 (PL 107.2)
Public Contact: Dave Shadwell, AB3TE
PO Box 922
Reisterstown, MD 21136
Phone: 410-842-5019
Email: <w3ft67@yahoo.com>

RADIO ACTIVITY 2016
Date: Thursday, June 23 through Saturday, June 25, 2016
Location: Holiday Inn
9615 Deereco Road
Timonium, MD
Website: <http://www.maarc.org>
Sponsor: Mid-Atlantic Antique Radio Club
Type: ARRL Hamfest
Talk-In: None
Public Contact: Bruce Pellicot, KA3EIE
10348 Route 99
Woodstock, MD 21163
Phone: 410-461-7441
E-mail: <brucepellicot.md@netzero.net>

Santa Fest **New Listing**
Date: Saturday, December 10, 2016
Location: American Legion Youth Camp
9201 Surratts Road
Cheltenham, MD 20623
Sponsor: American Legion & Prince George's County Emergency
Repeater Association
Type: ARRL Hamfest
Talk-In: 145.230 (PL 110.9)
Public Contact: Charles Hallock, AA3WS
16203 Manning Road
West Accokeek, MD 20607
Phone: 301-535-1666
E-mail: <selbynet@hotmail.com>

D-DAY
SPECIAL EVENT STATION, W2W

The Amateur Radio Club of the National Electronics Museum will be operating as a special event station, W2W, in commemoration of D-Day from 1300 UTC until 2000 UTC on Saturday, June 4th and on Monday, June 6th.

Additional operations are also possible during the June 3rd through June 13th period as operator availability permits.

(June 6, 1944 is the date that the Allied Forces first landed on the coasts of France in World War II.)

Suggested frequencies are: 14.244 MHz, 14.044 MHz, 7.244 MHz and 7.044 MHz.

A QSL card is available by sending your QSL card and one U.S. first class postage stamp or #10 SASE to:

K3NEM
W2W-D-Day
PO Box 1693
Mail Stop 4015
Baltimore, MD 21203

If you would like a folded Certificate & QSL – send one U.S. first class stamp or #10 SASE to the address above.

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June 25-26, 2016

FD16
HAM RADIO OPERATOR
ON THE AIR

Are you ready, yet?

REPEATER FREQUENCIES

Davidsonville	Millersville	Glen Burnie	Annapolis
147.105+		147.075+	
223.880-	224.560-		
444.400+			442.300+

PL: 107.2 for all repeaters

The 147.105 and 147.075 repeaters are frequently linked. Please leave an extra second after the courtesy beep to allow the link to reset as well.

Visitors are welcome *to all meetings and nets.*
Meetings are held in the Clubhouse at the
Davidsonville Family Recreation Center,
Queen Anne Bridge and Wayson Roads off
MD Route 214 near Davidsonville, MD.
For en-route directions,make initial contact on the 147.105 repeater.

Wednesday Night Talk Net -- All are welcome

8PM, On the AARC Repeater 147.105

Other Amateur Radio nets

Name	Frequency		Day	Time
Morning Commuter Net	147.105+	PL 107.2	Weekdays	0600
AA County ARES Net	146.805-Mhz	PL 107.2	Sunday	2000
Baltimore Traffic Net	146.670-Mhz		Daily	1830
Maryland Emergency Phone Net	3.820Mhz		Daily	1800
MD-DC-DE Traffic Net	3.557Mhz		Daily	1900 and 2200
Maryland Mobileers Net	146.805	PL107.2	Monday	1930
Maryland Slow Net	3.563 MHz		Daily	1930
REACT Net	442.300+Mhz	PL107.2	1st Sunday	1930