



January 2011

# The HARC Spark

The Official Newsletter of the  
Holmesburg Amateur Radio Club  
WM3PEN 146.685 Mhz Repeater  
K3RJC 444.9 Mhz Repeater  
K3FI CLUB CALLS WM3PEN  
Web Site <http://www.harcnet.org>



## ***HARC IS RADIO ACTIVE!***

***Pennsylvania FM Sprint  
Plans being made for 13 Colonies Special Event July 2011***

### ***HARC Helps Usher in Holiday Season in NE Philadelphia***

The Mayfair Holmesburg Thanksgiving Parade returned to Frankford Ave in November thanks to the efforts of the Mayfair Business Association (MBA) and the Holmesburg Amateur Radio Club. Rich, AB3EO, and Bob, WA3PZO, provided guidance on logistics, email broadcasts, website support and other pre-parade activities. Club members were tasked with providing the order of march to the mc at end of parade, safety communications and general logistics in the staging area.

This is by far the most involvement Club members have had in putting on the parade. On **Facebook**, the MBA leadership said "Unbelievable Support & Coordination from Our Friends at the Holmesburg Amateur Radio Club (HARC), Insight & Experience from the Members/Leadership of the Greater Kensington String Band, and finally; the Mayfair Business Association who went above & beyond to ensure the Parade came back to the Avenue!"

A lot was learned and improvements are being planned for next year. One area that needs improvement is the comm links along the parade route. In addition more radio help will be needed along the route. We'll definitely need more help for the next parade.

### ***PA FM Simplex Contest***

**February 26, 2011  
7 - 11 PM**

Following the growth of local FM Simplex Contests across Pennsylvania HARC announces the Pennsylvania Sprint.

The Pennsylvania Sprint is a 4 hour contest open to all radio amateurs. Pennsylvania amateur radio operators should make contact with other Pennsylvania hams by exchanging a contact number and their zip code. Hams in surrounding states may also participate.

According to HARC Contest Director Rich Shivers, AB3EO, the Contest will help to promote FM Simplex operation, serve as a learning experience as to how far your signal will travel without the use of a repeater. HARC Club Call Trustee Bob Josuweit, WA3PZO, sees this as a fun, fast contest using equipment that most hams have already.

Contest operations are limited to the FM Simplex frequencies recognized by your local band plan on 6 Meters, 2 Meters, 222 MHz and 440 MHz. No contacts are permitted on the calling frequencies. There are four operating classes. These include Base, Club, Rover, and Portable operation. Certificates will be issued for first, second, and third place, in all classes, in each ARRL section.

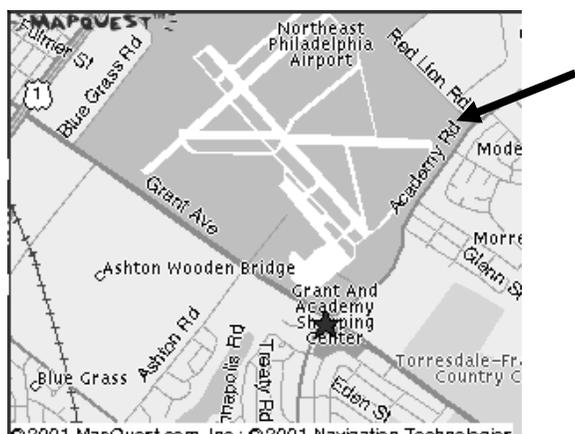
Complete rules can be found at [www.harcnet.org/contest.htm](http://www.harcnet.org/contest.htm).

For further information contact  
AB3EO@ARRL.NET

## HARC Board of Directors

President - Mike Wurgley, N3LXN  
Treasurer - Bob Josuweit, WA3PZO  
Membership - Charley Johnson, K3CJ  
Technical - Ron Cardullo, K3RJC  
Member-at-Large - Sol Volen, N3UBY  
Webmaster - Rich Shivers, AB3EO  
UPARC Rep - Mike Feeley, KB3NDC  
Newsletter Editor - Bob Josuweit, WA3PZO  
WM3PEN @ AOL.COM

H.A.R.C. Monthly Meetings - The Board of Directors meets on the 2nd Thursday @ 7:30 PM (Odd number months). General meetings are held the 4<sup>th</sup>. Thursday @ 8:00 PM. 8<sup>th</sup> District Police Station, Red Lion & Academy Rd. Phila PA. No meeting in August.



H.A.R.C maintains the 146.685 repeater located @ Univ. of PA., Phila PA with inputs in Abington, N.E. Phila, and Cherry Hill, NJ; More Club Information & Member Applications can be had by contacting any of the Directors via E-mail. [WM3PEN@arrl.org](mailto:WM3PEN@arrl.org), the web page <http://www.harcnet.org> or writing to HARC 3341 Sheffield Ave, Philadelphia, PA 19136.

**January 27th  
Meeting**  
**A full year preview**

## HARC Bulletin Schedule

### Bulletin Station K3CJ

Wed 2000L Amateur Radio News Line  
ARRL Audio News  
The RAIN Report  
Contests / Special Events / Hamfests  
Sun 1000L This Week In Amateur Radio  
Gate Way 160  
Handy Hams  
Contests / Special Events / Hamfests

## PHILA ARES INFORMATION

All amateurs interested in participating should check into the Phila ARES Net, Sunday's at 9:00 PM, hosted on the Phil-Mont Repeater System; 147.030 MHz (+offset 91.5 PL) ;444.80 MHz (+offset 186.2 PL) When control operators are available, Echolink node 29742, WU3I-L, is on the repeater. Backup link is KB3IV-L.

All interested amateurs are welcomed and encouraged to check in for more information. There is always a different topic of interest to the amateur community discussed with an informal round table of comments and suggestions.

Look forward to having all check in on Sunday nights @ 9:00 pm. See web site for more information.

- Visit the Philadelphia ARES web site  
<http://www.harcnet.org/aresindex.html>



## VE SESSIONS

PhilMont Mobile Radio Club has testing in Ambler, PA on the 4th Thursday of every month. Exams , 1414 E. Butler Pike in Ambler, PA.

Registration begins at 7pm.

Warminster Amateur Radio Club has testing the last Wednesday evening of each month except August and December. The sessions are at the Warminster Recreational and Educational Center on Little Lane, and start promptly at 7:00 PM (registration 6:45 PM).

Bryn Mawr - quarterly on a Saturday. Contact Bob Lees, W3ZQN, [rjlees@aol.com](mailto:rjlees@aol.com)

**Keep up on the latest HARC news by  
checking out the Club website  
[www.HARCNET.org](http://www.HARCNET.org)**

**Upcoming Events  
February 24th meeting: Guest  
speaker District Emergency  
Coordinator K3RF**

## **HARC to Participate in 2011 Original 13 Colonies Event**

In July 2011 the Holmesburg ARC will be participating in the event. During recent conversations with Ken, KU2US, the event organizer, Bob, WA3PZO suggested that Philadelphia be on the air as the capital of the colonies.

HARC members will be on the air using WM3PEN. Bob said it would be a great tie in with the club call since the Liberty Bell was made to commemorate the 50-year anniversary of William Penn's 1701 Charter of Privileges.

Since the event will be celebrated on both HF and VHF, it gives club members an opportunity to work a band and mode that you are interested in.

A special QSL card will be developed along with operating guidelines. If you haven't had the opportunity to operate a special event station you will get a real thrill from it.

There is some planning for this event to make sure we are all using the same information. This will be similar to a Field Day operation. If you are interested in helping with the planning, contact WA3PZO.

Maybe you want to operate during the event but need another antenna up or some changes in the shack. This is your opportunity to get prepared.

This year get on the air and operate this year's special event so you have an idea what will be happening.

Celebrate the 4th! Be Radio Active!

***Information on all Club activities can  
be found at the Club website:  
[www.harcnet.org](http://www.harcnet.org).***

***Info on the special events can also be  
found on the WM3PEN and K3FI  
pages on QRZ.Com.***

## **Where do ham frequencies come from?**

Rod Stafford, W6ROD, IARU Secretary

If you were to ask most amateur radio operators what entity is responsible for granting privileges to use portions of the radio spectrum for amateur radio purposes the answer would likely be their own national telecommunication authority. However, that's only partially true. The ultimate authority for the use of the radio spectrum is the International Telecommunication Union (ITU). It is desirable that each amateur radio operator understand what the ITU is and why its work and decisions are important.

Most countries are Member States of the ITU and by way of treaty generally agree to be bound by the decisions of the ITU when it comes to the usage of the radio spectrum. Each country can decide that a certain use determined by the ITU may not apply in their own jurisdiction. It is not common for countries to do that but it is within their sovereign authority to do so.

The International Telecommunications Union is a United Nations agency that deals with information and communications technology issues. They have an extensive web site at [www.itu.int](http://www.itu.int) that details much of their work. The ITU is based in Geneva, Switzerland and includes in its membership 192 Member States and more than 700 Sector Members and Associates.

ITU has coordinated the shared global use of the radio spectrum, promoted international cooperation in assigning satellite orbits, worked to improve telecommunication infrastructure in the developing world, established the worldwide standards that foster seamless interconnection of a vast range of communications systems and addressed other global concerns, such as mitigating climate change and strengthening cybersecurity.

## PA "67" Challenge Award

## "HAM TECH"

Vol 1 No 1 By: JOHN - WY2J/SJRA

Amateur Radio operators around the world have the opportunity to participate in the Pennsylvania "67" Challenge. The Challenge, sponsored by the Holmesburg Amateur Radio Club, is to make contact with all 67 Pennsylvania Counties.

The Challenge is open to all amateur radio operators regardless of individual station capabilities. All contacts must be 2-way communications made in real time. These contacts may be on any Amateur Radio band/mode.

Contacts made using repeating devices such as FM repeaters, Amateur satellites, moon-bounce, and keyboard-to-keyboard contacts through digipeaters/nodes are valid, because these QSOs are made in real or near-real time. Contacts using IRLP, Echolink, or D-Star are valid as long as a radio is being used by both operators. All contacts must be made from the same county.

As an incentive Pennsylvania "67" Challenge certificates may be earned by working stations in 20, 40, 60, or all 67 Counties. Paper or electronic QSLs are acceptable. The contacts can be verified by a local club officer or mailed to the Holmesburg Amateur Radio Club.

HARC Award Manager Bob Josuweit, WA3PZO said there was a need to have a County Challenge in Pennsylvania that was within the reach of most hams in Pennsylvania. When other state awards lost their sponsorship it was an opportunity for the Holmesburg Amateur Radio Club to fill the void.

Complete rules will be posted on the HARC website. Questions on the Award can be directed to HARC at WM3PEN@ARRL.NET.

## Line of Sight (LOS) Propagation

"I am starting a monthly column which for the next seven issues will focus on propagation. You may wonder why. The simple answer is that no technical factor has as much impact on achieving the performance you expect from your station as propagation. Antennas are next in line in impact and will be the subject starting in the spring of 2011. By a year from now you should have the background, the tools including simple equations, charts and computer software and some experience in using them to evaluate your station and trade off your next big investment. Should it be a kilowatt amplifier, a new antenna or a new tower? You will know what each of these will do for you in terms of making QSOs.

VHF/UHF line of sight propagation is relatively simple to understand and calculate as long as you can keep the effects of the earth and its obstructions out of the signal path. Even with antennas near the earth this propagation is rather predictable as long as you don't try to stretch the distance between antennas to the point where the signal is sitting on the horizon. Examples of LOS propagation are short range simplex, ground based repeater and earth to amateur repeater satellite. Of the three the ground repeater is the most widely used. Note also that I am only referring to VHF and higher frequencies for LOS propagation. Below 50 MHz the antennas are electrically too close to the earth to meet the criteria of LOS.

So what limits the range of LOS propagation? For the simplex and ground repeater case the limit is the antenna heights and the earth curvature. For the earth satellite case the satellite must be in view of both stations and the limits are satellite transmitter power, antenna gains, ground receiver sensitivity and signal bandwidth. Let's look at the first two cases.

There is a geometric horizon which is sometimes incorrectly referred to as the optical horizon and a radio horizon. They would all be the same if the earth had no atmosphere like the moon, but it

does. Most of us have watched a sun set where we can see the horizon. The sun grows in diameter and changes color due to the effect of the atmosphere. You actually see the sun finally disappear well after it has fallen below the geometric horizon. The atmosphere bends the light and radio signals over the horizon. This is not insignificant since the distance to the horizon grows by about 33 percent for radio signals. To avoid having to draw curved lines when plotting LOS signal paths, convention has for decades been to increase the size of the earth by 33 percent. This is the basis of the 4/3 earth model. In addition if this model is used and height is measured in feet and distance to the horizon in miles, the calculation of the horizon distance is very simple.

“Where  $h$  = antenna height in feet and  $D$  = radio horizon in miles.

For example If  $h = 50$  ft then  $D = 10$  mi. Two hams with 50 foot antennas could each see out to the horizon and could be up to  $2(10) = 20$  miles apart. If one ham is mobile and his antenna is only 5 feet high his distance to the horizon is only 3.2 miles so they can only work each other at a distance of  $10 + 3.2 = 13.2$  miles. But wait a minute, they are both putting signals right on the ground so there is going to be lots of interaction with the ground and significant fading. Your useful range will be a little less in each case. Even with relatively high antennas, simplex LOS just doesn't get too far.

“Let's switch to the BEARS UHF repeater (444.2MHz) in Bensalem, PA. This repeater antenna is 550 ft. high and the horizon point is slightly over 33 miles. Add to this the 10 miles for your base station antenna and you could reach the repeater at a distance of almost 43 miles, 36 miles while mobile. Two base stations could be up to 86 miles apart if the two stations and the repeater are on a common straight line path. I use the KK3L 2 meter repeater located on a 3000 ft. mountain in Berkley Springs, WVA while on the PA turnpike just west of the twin Blue Mountain tunnels. I have no trouble working other mobiles

125 to 150 miles away calling into this machine. This KK3L machine is linked to the W3WGX mountain top repeater in Seven Springs, PA. With the two I have coverage from where I lose the BEARS linked network at Blue Mountain all the way to Pittsburgh. Repeaters and height makes 2 meters our most popular band and most of it is LOS. Next month we add to our equations to determine the impact of transmitter power, antenna gain and receiver sensitivity in fighting the signal attenuation of LOS propagation.

### **ARRL Outgoing QSL Card rates go up!**

Effective January 17, 2011, a new pricing structure will go into effect for the ARRL Outgoing QSL Service. With the new rate structure, amateurs will no longer need to count outgoing cards and then guess as to what to pay based upon a half-pound rate; a simple weighing of the cards is all that is necessary to determine what amount to send to the Bureau. This new structure also accommodates a small rate increase in response to recent postage, shipping and handling costs.

The last rate revision for the Outgoing QSL Service was in January 2007. Even though international shipping costs have remained flat over the last 4 years, domestic shipping costs have risen more than 16 percent since 2007, while material and handling costs continue to climb 1 to 2 percent each year.

The new rate will be:

- \$2 for 10 or fewer cards in one envelope.
- \$3 for 11-20 cards in one envelope, or
- 75 cents per ounce, for packages with 21 or more cards. For example, a package containing 1.5 pounds -- 24 ounces, or about 225 cards -- of cards will cost \$18.

(via ARRL)

## **New Amateur Radio Bill Introduced in Congress**

(via ARRL)

The Amateur Radio Emergency Communications Enhancement Act, which died at the end of the 111th Congress, has been reintroduced in the 112th Congress as HR 81. The sponsor is Representative Sheila Jackson Lee (D-TX-18). The new bill -- which was introduced on January 5 -- has been referred to the House Committee on Energy and Commerce.

Rep Jackson Lee first introduced the bill -- HR 2160 -- in the 111th Congress in April 2009. It gained an additional 41 co-sponsors but did not progress out of the committee of jurisdiction. A similar bill introduced in the Senate -- S 1755 -- made it all the way through that body in December 2009, but likewise was not taken up by the House.

The objective of the bill -- which is supported by the ARRL -- is for the Secretary of Homeland Security to study the uses and capabilities of Amateur Radio communications in emergencies and disaster relief and to identify and make recommendations regarding impediments to Amateur Radio communications, such as the effects of private land use regulations on residential antenna installations.

"We are hopeful that this early start will lead to success in the new Congress," commented ARRL Chief Executive Officer David Sumner, K1ZZ.

HR 81 can be found on the web in PDF format at, <http://www.gpo.gov/fdsys/pkg/BILLS-112hr81ih/pdf/BILLS-112hr81ih.pdf>.

### ***Aim High in January VHF Contest***

VHF operators will be on the bands in force the weekend of January 22-24 as the [ARRL January VHF Sweepstakes](#) hits the airwaves. This contest gives the VHFer in all of us a

chance to do some contesting during the winter months.

According to ARRL Contest Branch Manager Sean Kutzko, KX9X, January may not seem like the ideal time to hold a VHF+ contest, but sometimes he said, the propagation gods like to surprise and confound. "There have been plenty of QSOs made via sporadic-E in the colder months this winter, including a surprise opening from the Midwest and Western US to Australia and New Zealand just this week! QSOs on other forms of enhancement exist as well, thanks to tropospheric ducting and auroral propagation. Because of the advent of [WSJT software](#), making QSOs via meteor scatter in the wee hours of the morning on 6 and 2 meters has never been easier. There are plenty of opportunities to make long-haul QSOs on the VHF+ bands in January."

Kutzko said that getting on the VHF bands is easy. Technician class licensees have permission to use all amateur bands above 50 MHz and the antennas for VHF frequencies are smaller than their HF counterparts. A dipole for 6 meters is less than 10 feet long and most modern transceivers come with 50 MHz built-in. So why not string up a dipole for 6 meters and see what you can work?

While most contest QSOs will be made using SSB and CW, Kutzko advised amateurs to remember FM simplex: "Numerous stations enjoy 2 meter FM simplex QSOs, especially if you live near a large population center. Just be sure to keep the national 2 meter calling frequency of 146.52 MHz clear of contest activity. Don't neglect the higher bands, since 222 MHz, 432 MHz and 1.2 GHz and up will see activity this weekend, too."

The [2011 ARRL January VHF Sweepstakes](#) runs from 1900 UTC Saturday, January 22 through 0359 UTC Monday, January 24. Participants can submit their Cabrillo-formatted logs via [e-mail](#). Paper logs may be sent to ARRL January VHF Sweepstakes, 225 Main St, Newington, CT 06111. All logs must

be postmarked no later than 0359 UTC  
Thursday, February 24, 2011. (Tnx ARRL)

## **SWLFEST**

### **March 4–5, 2011, Doubletree Guest Suites, Plymouth Meeting, Pennsylvania**

The Winter SWL Fest is a conference of radio hobbyists of all stripes, from DC to daylight. Every year scores of hobbyists descend on the Philadelphia, Pennsylvania suburbs for a weekend of camaraderie. The Fest is sponsored by NASWA, the North American Shortwave Association, but it covers much more than just shortwave; mediumwave (AM), scanning, satellite TV, and pirate broadcasting are among the other topics that the Fest covers. Whether you've been to every Fest (all 24, starting with the first year at the fabled Pink & Purple Room of the Fiesta Motor Inn) or this year's will be your first, you're sure to find a welcome from your fellow hobbyists.

The Winter SWL Fest has two days of sessions where you can learn about the latest developments in the radio listening hobbies, but there's so much more going on. There's a silent auction that takes place over the two days of the Fest, where you're bound to find something of interest. There's the Hospitality Suite, where attendees partake of tuning oil and other treats and engage in spirited conversations. There is the closing Banquet, with after-dinner remarks by a luminary from the field, often one of the many broadcasters who attend the Fest, followed by the raffle, where you could win one or more of the dozens of prizes, ranging from pens from stations up to top-notch communications receivers. And of course, the infamous midnight ride of Pancho Villa that closes things out every year.

Further info at [www.swlfest.com](http://www.swlfest.com).

### **"N6R" Special Events Station: President Ronald Reagan's 100th Birthday**

To celebrate President Ronald Reagan's 100<sup>th</sup> Birthday, the Ventura Co. (CA) Amateur Radio

Society (VCARS) will activate Special Events Station N6R from Thousand Oaks, CA during the period February 05, 2011 through February 07, 2011. Operation is planned continuously from 0800 PST – 1800PST, Sunday, February 06, 2011 and intermittently at other times Saturday through Monday. Further details will be available at >>>> [www.qrz.com/db/n6r](http://www.qrz.com/db/n6r)<<<<<<. Requests for schedules may be sent to >>>>n6rn6r@aol.com<<<<<. QSL info: SASE to Peter Heins, N6ZE; No e-QSL or LOTW, please.

#### *Probable frequencies:*

*SSB: 3820, 7260, 14255, 21320, 28490 KHz (+/- as needed for QRM)*

*Twenty meters will be the workhorse.; Local repeaters & FM simplex VHF/UHF.*

*CW: 3545, 7045, 14045, 21045, 28045 KHz (+/- as needed for QRM)*

## **HARC Business**

### **Board of Directors Elections**

It's that time of year to elect your officers for 2011. The Club runs because of the volunteers we have. The Board meets 6 times per year to set policy for the Club. The meetings are generally informal. Openings exist for president, vice president, secretary, treasurer and member at large. Interested in serving on the Board, contact N3LXN or WA3PZO. Elections will be in March with the new term beginning in April.

### **HARC Dues are Due**

2011 membership dues are now due. Simply fill out the form on the last page of the newsletter and send your check in. Dues help support the Club and the many activities we do throughout the year.

### **HARC Joins Facebook**

If you spend some of your time on Facebook, you can now join up with other HARC members. Simply do a search for HARC and sign up. For more info contact Mike, N3LXN



HOLMESBURG AMATEUR RADIO CLUB  
3341 Sheffield Ave., Philadelphia, PA 19136  
"Serving the Community Through Ham Radio"

**NEXT MEETING January 27, 2011**

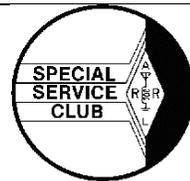


## HOLMESBURG AMATEUR RADIO CLUB MEMBERSHIP FORM

HARC, 3341 Sheffield Ave, PHILADELPHIA, PA 19136

<http://www.harcnet.org>

WM3PEN/K3FI



All members in good standing are eligible to vote and hold a board office. Dues are \$20.00/year.  
Make checks payable to H.A.R.C. and mail to 3341 Sheffield Ave, Philadelphia, PA 19136.

NAME \_\_\_\_\_ CALL \_\_\_\_\_

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Telephone # \_\_\_\_\_ Would you be willing to receive the newsletter via email? \_\_\_\_

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Are you an ARRL member? YES NO Membership Expires (mm/yy) \_\_\_\_\_