



February 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 Speaker helps ARES get more recognition from the Feds.

**Bob Famiglio, K3RF
ARES EPA 1st District Emergency
Coordinator**

On February 24, 2011, HARC's featured speaker will be Bob Famiglio, K3RF. For the past 6 years, Bob has served as the Amateur Radio Emergency Service Emergency Coordinator for 1st District of the EPA ARRL section. He has been responsible for the development and management of ARES organizations in Bucks, Chester, Delaware, Philadelphia and Montgomery Counties. While holding this office, he designed and oversaw the creation and submission of a master grant proposal for funding from the Southeastern Pa Antiterrorism Task Force.

After 2 years of lobbying congressmen and politicians, presenting before committees, and generally being a squeaky wheel, his proposal for \$167,000 in equipment grants was recently approved. The grant provided for a first phase of HF, VHF and UHF SSB/FM and digital text mode field equipment as well as a separate second phase to provide new VHF/UHF repeater infrastructure. This was the largest single ARES grant in Pennsylvania. (continued pg 3)

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.

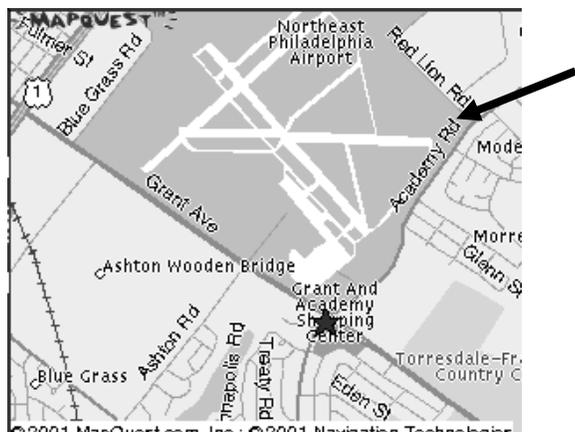
Contest operations are limited to the FM Simplex frequencies recognized by your local band plan on 6 Meters, 2 Meters, 222 MHz and 440 MHz. No contacts are permitted on the calling frequencies. There are four operating classes. These include Base, Club, Rover, and Portable operation. Certificates will 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.
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, K3RJ
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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 4th. Thursday @ 8:00 PM. 8th 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, the web page <http://www.harcnet.org> or writing to HARC 3341 Sheffield Ave, Philadelphia, PA 19136.

**February 24
Meeting**

**ARES 1st District
Emergency
Coordinator K3RF**

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

**Keep up on the latest HARC news by
checking out the Club website
www.HARCNET.org**

**Upcoming Events
March 24 meeting:**

Awards Nights

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.*

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

In recognition of this achievement, Bob received ARRL's 2010 Technical Achievement Award in the Atlantic division.

In his presentation, Bob will bring with him several different pieces from the 30 completely portable HF, VHF and UHF emergency field stations funded by the grant. You are encouraged to attend to get your hands on this equipment and see it for yourself along with a presentation regarding other equipment received and placed in service by ARES. The second Phase of the grant included 15 repeaters along with top quality duplexers, controller, antennas and many other accessories. Each of the five counties in Bob's district received repeaters. Bob will explain how this "seed" equipment has recently spawned even more repeater system funding in the district.

Bob is no stranger to Emergency Service. A PA fire academy certified firefighter and vehicle rescue technician, Bob describes radio not as a hobby, but a way of life. Bob started in amateur radio at the age of 14. He still has his original AM broadcast DX logbook from when he became an SWL at the age of 8. In the fall of 1966, he finally took his Novice and Technician class license exam after a course at the Franklin Institute. In those days you could take and hold both licenses. Aside from his amateur radio lifestyle, Bob is a licensed FAA pilot, a firearms, target, skeet shooting and automobile enthusiast to name a few other hobbies. Bob lives in Media with his spouse Karen, N3SKW.

Bob presently serves as a Lieutenant with the Rose Tree Fire & Rescue Company, (Station 73, naturally), being voted Firefighter of the Year twice in the last 10 years. He now serves as the Vice President and legal counsel for the oldest radio organization in America, the Radio Club of America. (Info from MNARC Dipole, Pic QRZ.com)



PA "67" Challenge Award

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

Last month HAM TECH introduced LOS propagation in terms of coverage as a function of antenna heights and cited a few applications where LOS is in common use by hams. This month we explore the various signal gains and losses in a typical 2 meter LOS system. We also get comfortable in doing the math in one of the simplest forms possible, the logarithmic form, better known as the dB. We are all familiar with expressing amplifier and antenna gains and transmission line and other losses in dB. We can calculate propagation losses in dB and put absolute signal levels like transmitter power and receive sensitivity in units of +/- dBw or dB above or below a watt. Then we just add up all the dB terms to solve our equations and get the desired answer. In the example that follows we are looking for the S/N margin above 12 dB.

Let's start with the two 50 ft. towers spaced 20 miles apart from the last issue. We will put 6 element yagi antennas on top of each with horizontal polarization. The gain of each will be 17.4 dBi and the elevation angle of the first lobe is 2 degrees. The units are dB above isotropic, that mathematically convenient but unbuildable antenna. But don't worry because we are going to calculate the free space path loss between isotropic antennas so it all comes out correct in the end. We will feed the two antennas with 100 feet each of 9913 coax which has about 1.4 dB of attenuation at 2 meters. For rigs we will use two Yaesu FT7800 FM units. These have transmitter power outputs of 50 watts and receiver sensitivities of 0.2 microvolts for 12 dB S/N ratio. This is 2 S Units above noise and allows speech to be copied but it is not fully quieted. So let's build the equations of our two station model.

1. Transmitter Power = 50 watts

$$PT(\text{dBw}) = 10\log(50) = +17 \text{ dBw}$$

2. Antenna gains = 17.4 dBi each

$$GA = G_t + G_r = 17.4 + 17.4 = 34.8 \text{ dBi}$$

3. Transmission Line Loss = 1.4 dB each.

$$LT = Lt + Lr = 1.4 + 1.4 = 2.8 \text{ dB.}$$

4. Free Space Propagation Loss

$$Lp = 36.9 + 20\log(F\text{MHz}) + 20\log(D\text{mi})$$

$$Lp = 36.9 + 20\log(144) + 20\log(20) = 106.1 \text{ dB}$$

5. Receiver Sensitivity $E = 0.2(10^{-6})$ volts.

$$S(\text{watts}) = E^2/R = (0.2(10^{-6}))^2/50 =$$

$$8(10^{-16})$$

$$S(\text{dBw}) = 10\log(8(10^{-16})) = -151.0 \text{ dBw}$$

6. SM = Excess Signal to Noise Margin in dB over receiver input to yield 12 dB S/N output. This must be positive.

So let's put it all together in free space and see if we have enough signal at the receiver, a positive margin.

$$7. SM = PT + GA - LT - LP - S = 17 + 34.8 - 2.8 - 106.1 - (-151.0) = 94.0 \text{ dB}$$

The 94.0 dB margin is not valid for a true free space condition, such as amateur satellite where the signal path is totally free of earth effects. The antenna gains used above include the effect of earth. For free space conditions we must reduce the gain of each by approximately 6 dB. This gives us a margin of about $94.0 - 12 \text{ dB}$ or 82.0 dB . This is a huge margin but we are not finished.

Let's go back to the on earth case. We still need to correct for two effects. First is the fact that the signal is grazing the earth at the horizon point. If we wanted no added loss here the signal would have to clear the earth by a distance equal or greater than the radius of the first Fresnel Zone. This is a term from the diffraction theory of light. The first zone radius is:

$$R1st = 1140(d/F)^{1/2}$$

This is for our antenna and earth geometry. At $d = 20 \text{ mi}$ and $F = 144 \text{ MHz}$ $R1st = 425 \text{ ft}$. We just have to increase both tower heights by 425 ft to 475 ft. It's not very practical for ham use. Even at microwave frequencies like 2304 MHz it adds 106

ft. Let's look at the added loss at the horizon point if we just leave the signal on the ground. The added loss is between 10 and 20 dB. (Ref.1.) Let's use up 20 dB of our 94.0 dB margin and save a bundle on tower cost.

The second loss we must account for is that due to the antenna beams being elevated due to the ground reflections. With horizontal polarization the ground reflection coefficient is out of phase and is approximately between 0.9 and 1.0 depending on the conductivity of the earth. For sea water it is nearly 1.0 and produces a near cancellation of the signal right on the horizon. Over land a value of 0.9 is more likely, resulting in a field strength of $1.0 - 0.9 = 0.1$. The signal is reduced on the horizon by $20\log(0.1) = -20 \text{ dB}$ at each antenna. So here goes another 40 dB of our margin. We still have $94 - 20 - 40 = 34 \text{ dB}$. Our 12 dB S/N will now be $12 + 34 = 46 \text{ dB}$, a good strong signal. We could reduce our transmitter power by 30 dB to 50 mw and still have a good system.

Next month we stretch the radio signal further around a curved earth, possibly to 300 to 400 miles and enter the world of Tropospheric Scattering. Remember discussion and Q&A on this article is on Monday Dec. 13th at 8:45 PM on the SJRA repeater, 145.29 PL 91.5.

Ref.1. K. Bullington, "Radio Propagation Fundamentals" Bell System Technical Journal, vol. 36, No 3, Fig. 8. 1957.

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.

Going Mobile with your HT

Rick Murray, K6WXA

Let's assume for the moment, you're just getting started in amateur radio and you haven't yet purchased a mobile rig for your car. But you have made the initial purchase of your favorite HT; whatever make and model it might be.

Sure you're able to talk on it while driving, but the HT's "rubber duck" antenna is rather limited; especially inside of a car, and while driving it has a tendency to slide around on the seat next to you.

Here's a handy solution... the **Lido LM-801** Cup Holder Mount.

This mount slips into your car's cup holder and has a base which turns, that locks the mount firmly into place within the cup holder. From there a notch at the top of the mount allows the belt clip fastener of your HT to affix it in place.



The Lido LM-801 sells for \$24.95, plus \$5.00 shipping & handling. Info can be found at:

www.lidomounts.com/hamradiomounts.html

This mount will also accommodate a control head, by removing the four screws and exposing the faceplate, then bolting your control head directly to the faceplate.

I bought one of these a few years back for use with a hand-held scanner. I was expecting to get what I saw in the picture (*as*



above) instead, the one I received had a stiff, but flexible neck – a nice feature! I guess they modified their product without updating its photo. (*See picture below left*)

Many other mounts are also available.

Some other additions to complete your mobile HT installation would of course be a speaker/mic for your HT as well as an external magnetic mount antenna. Your HT comes with an "SMA" antenna jack. Nearly all mag mount antennas come with PL-259 connectors at the end of their coax runs. There are two options to hook the two together.

One is a 4-foot length of coax with the appropriate connectors pre-assembled in place. This is available through Universal Radio as Part #4513 for \$18.95 plus shipping & handling. Another option also available through Universal Radio is to order a SMA M-SO239 connector, Part# 2976, which sells for \$3.95 plus shipping & handling. See their web page for info. While the connector is the least expensive way to go and will work, it can put physical stress on your radios small SMA antenna connector. So your best bet is to go with the four foot length of coax that I mentioned.

I've placed orders through both these companies and each is reputable.

73 de K6WXA

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

Boy Scouts - ARRL Team Up to Help Scouts Learn Radio Communications Skills

After working together for nearly a century to provide Scouts with the ability to learn radio communication skills, Boy Scouts of America and the American Radio Relay League (ARRL), the national association for Amateur Radio, have officially teamed up by signing a memorandum of understanding (MOU). This MOU designates the ARRL as a key resource for K2BSA and Radio Merit Badge training at the BSA National Scout Jamboree and establishes the ARRL as the go-to source for Scouts interested in learning about and becoming involved in radio communication.

BSA Chief Scout Executive Bob Mazzuca and “Throughout the years, going all the way back to the Wireless Merit Badge in 1918, the ARRL has worked hand-in-hand with Boy Scouts of America to help teach Scouts the skills and joys of radio communication,” said Chief Scout Executive Bob Mazzuca. “Today, we are making official a relationship that has been beneficial for both of our organizations for nearly a century.”

BSA, by virtue of its active membership and its outdoor program, represents a significant source of potential new radio operators looking to utilize Amateur Radio for emergency communications while in the field as well as for education, experimentation, and friendship. As part of this strategic alliance, BSA will encourage Scouts and Scouters to become familiar with opportunities for public and community service, learning and personal growth through involvement in Amateur Radio.

“We’re excited by the opportunity to make official a relationship that has existed informally for many years,” said ARRL President Kay Craigie. “Scouts and Scouters have been some of the strongest proponents and practitioners of radio communication, and we know they will continue to help foster a love and understanding for the essential nature of radio communication for generations to come.”

The BSA established the strategic alliance with ARRL because the mission of the ARRL is complementary to the mission and goals of the BSA. Specifically, the ARRL is organized for the establishment of networks to provide communications in the event of disasters or other emergencies, the advancement of the radio art and of the public welfare, the fostering of education, the promotion and conduct of research and development, and the dissemination of technical, educational and scientific information relating to

electronic communication, the representation of radio amateurs in regulatory matters, and the promotion of fraternalism and high standards of conduct among radio amateurs.

In addition to its National Scout Jamboree involvement, ARRL will continue to promote participation in the annual Jamboree on the Air (JOTA) event. ARRL will serve as contributing editor to the Radio Merit Badge publication, will assist with the review, creation and modification of requirements as necessary, and will assist in developing course material, lesson plans, and other resources for teaching the Radio Merit Badge to Scouts. ARRL also will contribute to the content of the Electricity, Electronics, and Emergency Preparedness and Communications merit badge publications.

Boy Scout Troop 461 Amateur Radio Club WW3TI



HARC's Supports BSA Troop 461 Amateur Radio Club, WW3TI

Boy Scout Troop 461 Amateur Radio Club was formed to teach scouts about amateur radio and the Radio Merit Badge.

The club offers license classes and provides support in finding exam sessions. We participate in Jamboree On The Air - JOTA and visit our brother club's Field Day operation.

For more information contact Rich, AB3EO or Tom, KA3PNM

ARISSat-1 Project

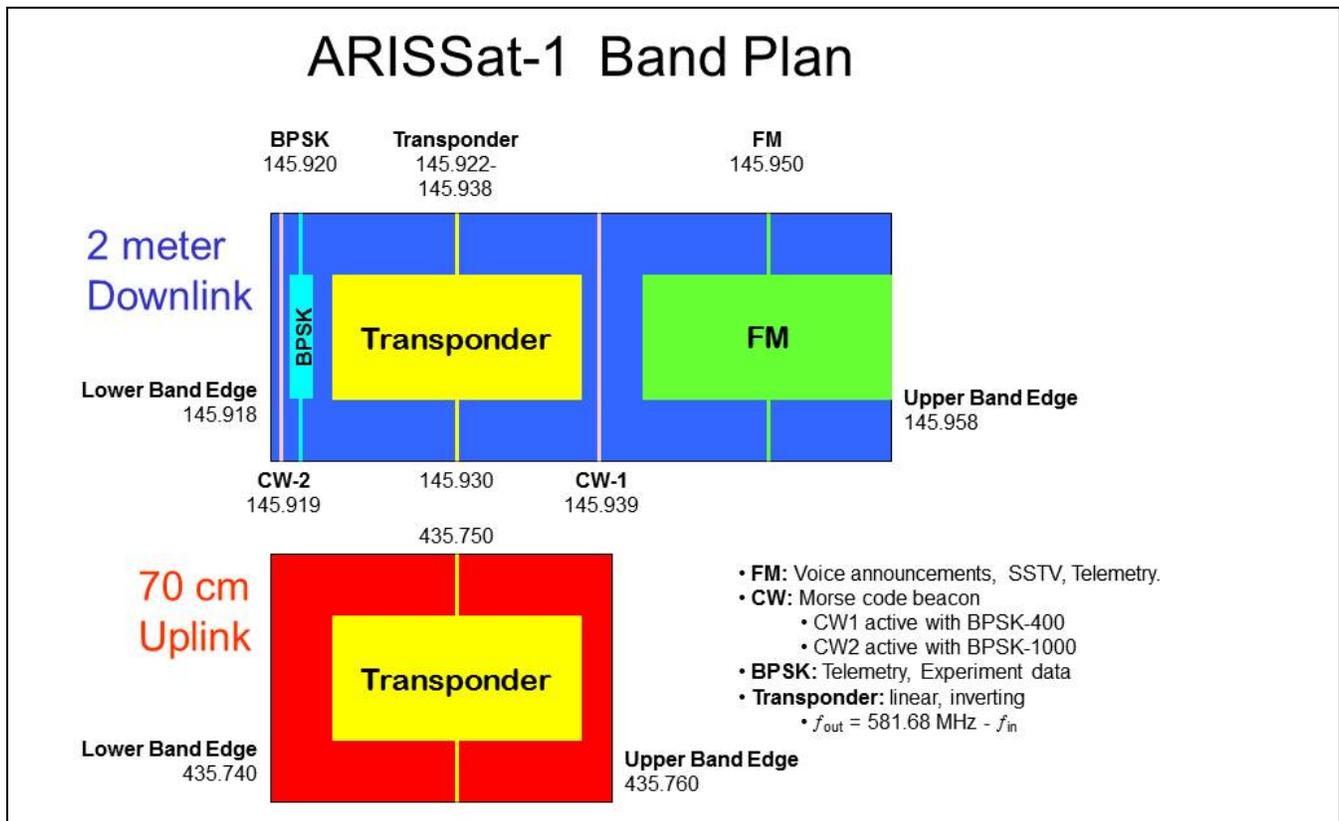
The ARISSat-1 amateur radio experiment is on board the International Space Station. On 16 Feb 2011 during EVA 28, the satellite will be manually deployed and begin transmissions. NASA television will broadcast this EVA and satellite release.

In addition to the flight unit, there is a flight ready backup unit in Russia (to be returned to the US this summer). AMSAT also has a working prototype unit for demonstrations and development, as well as two additional flight units in the US ready for future opportunities.

ARISSat-1 was designed, developed and tested by AMSAT-NA and ARISS volunteers. The primary mission for the satellite is **STEM** (Science, Technology, Engineering, Mathematics) education around the world. We expect students to be able to easily receive the 2m FM transmissions and use the information in classroom exercises. There are 24 greeting in 15 languages, most with a Secret Word at the end.

Students or classes can email their Secret Word reception and receive a certificate. Certificates will also be issued for SSTV image reception, voice telemetry reception, CW reception, full SSB telemetry packet reception and Kursk experiment reception. The satellite has four cameras on board that will constantly be taking pictures and sending them to earth using SSTV Robot-36 format in the 2m FM transmission. The official Web site for the ARISSat-1 project is arissat1.org.

Free software will be available for the PC and Mac that will take audio from a 2m SSB receiver connected to a computer sound card and demodulator/display the BPSK-1000 signal. Students and interested observers will be able to get the experiment data and plot it as well as watch the temperature and battery voltage changes as the satellite gets closer to the earth. Amateur Radio operators will have a 16 kHz wide 70cm/2m (U/V) SSB/CW transponder to operate through. The 40 kHz wide signal containing FM, CW, BPSK and transponder will all be transmitted simultaneously using new SDX (Software Defined Transponder) technology.



Why ham radio endures in a world of tweets

(via Southgate Amateur Radio Club)

In an interesting article appearing on the 'Wired' website this week, David Rowan looks at amateur radio and explains *'Why ham radio endures in a world of tweets'*.

Rowan starts his article:

Somehow it makes little sense that amateur 'ham' radio continues to thrive in the age of Twitter, Facebook and iPhones.

Yet the century-old communications technology - which demands such commitment that you must generally pass an exam to receive a license - currently attracts around 350,000 practitioners in Europe, and a further 700,000 in the United States, some 60 per cent more than 30 years ago.

What is it about a simple microphone, a transmitter-receiver and the seductive freedom of the open radio spectrum that's turned a low-tech anachronism into an enduring and deeply engaging global hobby?

You can read the full article *Why ham radio endures in a world of tweets* at:
<http://www.wired.co.uk/news/archive/2011-02/03/why-ham-radio-endures>

Atlantic Division News

We are very excited to announce the two webinars listed below. These webinars are open for any interested ARRL member to watch and listen to. All you need is a computer connected to the internet with computer speakers. You can watch the presentation on your computer monitor and listen to it through your computer speakers.

501-c-3 Webinar
Thursday, February 24, 2011 – 9:00pm through 10:30pm (EST)

This webinar will give basic information about why clubs may want to file for a tax exempt non-profit status; how to file and how to keep your status good once having been issued your tax exempt status.

Our speakers include the Chris Imlay W3KD - ARRL General Counsel; Marty Woll N6VI – Southwestern Division Vice Director and CPA; and Larry Keller AB3ER – Western Pennsylvania Section Emergency Coordinator and former Skyview Radio Society board member who was active in that club applying for and receiving their tax exempt non-profit status.

To register for this webinar, please go to the link below and complete the registration page at least one hour prior to the webinar start time.

<https://www1.gotomeeting.com/register/380546793>

HARC EMAIL LIST GROUP NOW AVAILABLE

HARC now has an e-mail list group available for club membership use. The list hosted on QTH.Net. The list is open to club members. Information that is ham radio related may be posted. Contests, DX news, Emcom, club events are just some of the info that can be posted. Maybe you need some help on a project. Here's a great way to reach out to other club members.

General information about the mailing list is at:

<http://mailman.qth.net/mailman/listinfo/harc>

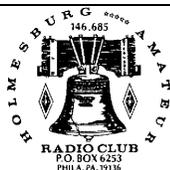
You can subscribe to the list and indicate whether or not you want to receive each email as they are sent or in a digest form.

Feel free to check it out along with HARC's Facebook site. For further info on the email list contact Bob, WA3PZO. For Facebook info contact Mike, N3LXN.



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

NEXT MEETING February 24, 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.

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