SARA NEWS

1930-2009
SARA's 79th Year !

SCHENECTADY AMATEUR RADIO ASSOCIATION, INC.    "SERVICE THROUGH AMATEUR RADIO"
FOUNDED 1930    K2AE REPEATERS

www.k2ae.org                Copyright 2009 SARA Inc.                March 2009

SARA General Meeting, Monday March 2nd , 2009 at 7:00PM
**in "the Little Theater" Room D-104 at** Niskayuna High School

# SARA PROGRAM TO BE CONFIRMED

Due to scheduling and travel issues this months SARA Meeting program is yet to be confirmed as of press time for the SARA News.   We tentatively will have the original Doppler Radar program from the National Weather Service that was noted last month.  Alternatively in that unlikely event that we have a change there will be another program of interest.   Meeting begins at 7pm in Room D-104.

**About The SARA Meeting Location**
The normal SARA meeting location for 2008-09 is in Niskayuna High School's "Little Theater" Room D-104 which is on a cross hallway between the two wings in the rear of the school.  Due to major school construction at the front main entrance of the school there are changes once again this year in parking and the traffic pattern for access to the rear parking lot.  Access to the school's rear parking lot can be gained by entering from Nott Street which crosses Balltown just south of the school at the light.  Go past shopping mall where Friendly's is a few hundred yards on Nott Street and go into the Niskayuna High School rear entrance which is marked on the left.  This entrance leads to the parking lot on the side/rear of the school.

In the event of a major snow storm or another serious condition that cancels Niskayuna High School for evening classes and activities, the SARA meeting will normally be cancelled for that evening.  Tune to the SARA K2AE 147.06 repeater for further information about the status of the meeting and if it is to be rescheduled from one of the SARA Officers:  Jim - K2PK, Frank - WB2PUH, Hal - AK2E or George - W2CSN or SARA board members: Dan - KC2MER, Bill - KG2AC, Bob - WB2ARK or Bill - KC2NXC.

**SPECIAL THANKS TO BILL PATMOS – W2DHT**
Bill at the last minute provided the February SARA meeting program of Bob Heil's video presentation on Audio Quality for Radio Amateurs.  That turned out to be an interesting program about how ham equipment handles microphone audio and the importance of proper control of audio response and phase.

**HISTORY - SARA IS NOW IN IT's 79th YEAR**
For those of you who may not have noticed, the SARA News masthead now carries a reminder that our club is now officially in its 79th continuous year of operation.  SARA was initially formed by a group of Schenectady hams in part as an aftermath of a major ice storm which knocked out inter-city telegraph and telephone communications for many days to distant and local communities in 1929.   SARA held its first meeting in a meeting room at the main plant of General Electric in downtown Schenectady in January 1930.  By April SARA had gained a following of those interested in radio technology from around the area and it began holding meetings elsewhere around Schenectady by the time of the April 1930 meeting.   For those of you who may remember there have been festivities to celebrate SARA's 25th and 50th Anniversaries and most recently SARA celebrated our 75th Anniversary event at the Glen Sanders Mansion in April of 2005.

## Digital TV Reference Information - From Rudy Dehn W2JVF

As  the changeover discussions heat up, IEEE has devoted some editorial effort that may be of interest to SARA members.  The Feb. issue of the IEEE magazine `Spectrum' has an interesting piece on suggestions for antennas capable of broadband in the UHF spectrum as well as covering some of  the stations that will elect to do digital on VHF.   While most SARA members will not have easy access to the Spectrum, they do reference two web sites  that are readily available and would interest many.

The first is   http://www.antennapoint.com which has a cool Google-like input where one enters address and gets a map showing locations of stations and listing of  station data like compass heading, channel use, and power levels. Interestingly, the power levels vary widely. The other site is  http://www.antennaweb.org and is partially a tutorial on changeover and  additionally linked to antenna suppliers with products characterized by need relative to distance of consumer from the transmitter.  An interesting observation is that there seems to be the same designer hoopla  to show new antennas that  I recall back when first UHF TV started in the late 50s and 60s.  Hope you find these sites interesting.  73  Rudy Dehn W2JVF

## BROUGHTON AWARD
The time is approaching once again this year for nominations for the Broughton Award.  This year the Broughton committee is chaired by Paul Siemers WV2F, Tim Long W2UI, and George Williams W2CRS.  Please contact any one of them or Paul at Paul at  siemers@crd.ge.com

## SARA BOARD MINUTES:
11 Feb 2009 Board Meeting at Friendly's Rest. in Niskayuna
Present:
Dan Fiorillo KC2MER
Jim Stewart K2PK
Frank Simon  WB2PUH
Bill Mischler KG2AC
George Williams W2CSN

Called to order at 7:85 PM by president Stewart.

Bill Mischler taking meeting notes.

Secretary minutes approved.

Treasurer minutes approved.

Dan is working on Broughton medal source.

Paul Siemers is Broughton Committee chairman.
Members are encouraged to send nominations to Paul

George Williams will be moving to sunny California.
Jim and Frank are activity seeking volunteers to fill George's Treasurers position.

Field Day committee: Tim Long, Mike Adams, and Paul Siemers are planning the Field Day activities. George will turn over the Field Day Notebook to the Secretary.

Nominating Committee is being formed. Provisionally they are Jim, Frank, and Bill.

Programs: Frank will try and reschedule the Doppler Radar meeting for next month.
Several other ideas were presented.

| Upcoming SARA Public Service Events | | | |
|---|---|---|---|
| **Event** | **Date** | **Time** | **Location/Website** |
| CROP Walk | May 3 | 12:30 PM | McDonald's, Union St http://www.sicm.us/CROP_walk.html |
| Niska-Day | May 16 | 7:30 AM | Friendly's, Balltown Road http://www.niskaday.org/ |
| Scotia Parade | May 20 | 5:30 PM | Dunkin' Donuts, Scotia |
| Alplaus Parade | July 4 | 9:00 AM | Alplaus Fire House http://www.alplaus.org/ |

If you would like to participate, please contact Ken Clikeman, AA2CW at free2aa2cw2000@yahoo.com or see him at the SARA meetings to sign up

# Federal Communications Commission Policy On Amateur Radio's Role In Assisting The Nation's Emergency Communications Needs

Dan Whelan – N2UD
Past President & Newsletter Editor
Schenectady Amateur Radio Association

Much has been said about ham radio emergency communications over the years and what its role in emergencies is or should be.  But in recent years, especially in the wake of 9/11 and Hurricane Katrina, the roll of amateur radio along with all other public and private communications systems has been carefully scrutinized by the Federal Government's experts considering the lessons learned.  The value to the nation of amateur radio specifically seems to have been clarified by the Federal government (FCC, FEMA and Homeland Security) and indeed this has found its way into national policy.   It is important that all hams and others we work with at all levels, see what the FCC actually says about the value of ham radio and our activities.

Here is an excerpt the official FCC policy which clearly outlines what the FCC and FEMA have come to expect from our emergency communications activities and how they reflect on the value of the Amateur Radio Service.   The FCC's Public Safety and Homeland Security Bureau is concerned with public safety and emergency communications and here is what it says about amateur radio.  ***Remember,  these are the government's own "official" words about Amateur Radio and it's emergency communications capability we provide to the nation!***  Find more about any FCC topic at their website www.fcc.gov  and find these specific FCC items about amateur radio at: http://www.fcc.gov/pshs/services/amateur.html  and http://www.fcc.gov/pshs/techtopics/techtopics13.html .
--------------------------------------------------------------------------------------------------------------------------------

**The following is from  the FCC's official website** www.fcc.gov

# Amateur Radio Services

The FCC established amateur radio service as a voluntary non-commercial radio communications service that allows licensed operators to improve their communications and technical skills, while providing the nation with a pool of trained radio operators and technicians who can provide essential communications during emergencies.

No amateur station shall transmit communications for hire or for material compensation, or communications in which the station licensee or control operator has a pecuniary interest, including communications on behalf of an employer.

During emergencies, amateur radio operators may transmit messages to other amateur stations, subject to the privileges authorized for the class of license the amateur station control operator holds. For these transmissions, no special FCC permissions are required. Some amateur radio operators coordinate their communications through groups referred to as "networks" or "nets."

Messages may be transmitted on behalf of unlicensed individuals, at the discretion of the amateur station licensee. These messages are referred to as third party communications. The FCC's rules permit an amateur station to transmit messages for a third party to any other amateur station within the jurisdiction of the United States. Amateur stations in the United States may transmit third party communications to amateur stations outside the United States under certain circumstances.

**Amateur Radio Organizations**
During emergencies, amateur radio operators coordinate their efforts through formal and informal groups referred to as "networks" or "nets." Amateur radio services are provided to both governmental and non-profit emergency organizations, and include both voice and digital communications. Amateur radio operators often work with state emergency management operations as well as various national emergency organizations, including:

**ARES, the Amateur Radio Emergency Service,** is an organization of amateur radio operators overseen by the American Radio Relay League (ARRL). These amateur radio operators train to provide communications during emergencies. ARES has formal agreements to provide communications for several national, non-profit emergency agencies, FEMA and with many state and local emergency management organizations. Many ARES members complete training courses offered by the ARRL and provide emergency services through the ARRL's local and regional emergency communications organization. Additional information about ARES is available from ARRL.

**RACES, the radio amateur civil emergency service**, is used to provide radio communication for civil defense purposes. It is administered by local, county, and state civil defense organizations and is supported by the Federal Emergency Management Agency (FEMA) as well as the FCC. The rules that apply to RACES are in Section 97.407 of the Commission's Rules. All communications transmitted in RACES must be specifically authorized by the civil defense organization for the area served and only certain types of civil defense communications may be transmitted.

**SKYWARN** is comprised of highly trained volunteers who act as weather spotters for the National Weather Service (NWS.) The program was established to promote cooperation between communities and the NWS. Skywarn volunteers obtain local weather information about wind gusts, hail size, rainfall, and cloud formations that could signal a developing tornado or other weather-related emergency and report this information to the NWS. Skywarn volunteers who are amateur radio operators often assist in the distribution of NWS information to alert the public of incoming weather-related emergencies.

**HEART,** the Hospital Emergency Amateur Radio Team, is comprised of ARES groups that specialize in providing volunteer services to hospitals during emergencies. Their training includes medical terminology often encountered in emergency messages and specific protocols for handling confidential information in mass casualty situations. HEART volunteers must be prepared to experience and cope with emergency medical care in a trauma setting.

**NTS, the National Traffic System,** provides a means for rapidly sending amateur radio messages over long distances. NTS nets are not independent entities. Each net performs its functions as part of a nationwide organization.

**Websites with Best Practices Information**
A number of state and county amateur radio groups maintain websites that, with the aim of promoting best practices, provide information on emergency communications services. These include the following websites, most of which are affiliated with Auxiliary Communications Service (ACS), Emergency Communications Service (ECS), or Radio Amateur Civil Emergency Service (RACES).
Arlington VA ACS
California ACS
Freemont CA Cert Communications
Hawaii State RACES
Los Angles County CA Disaster Communications Service
Orange County CA RACES
Orange County CA Hospital Disaster Communications
San Bernardino County CA ECS
Sarasota County FL ACS
Sarpy County NE Emergency Volunteer Communications
Virginia RACES

**Location of Amateur Radio Bands**
The FCC has set aside bands of radio spectrum (i.e., specific groups of frequencies) for the amateur service and other radio users. The FCC has allocated 26 bands to amateur radio services. These bands are spaced from 1.8 Megahertz, which is just above the AM broadcast radio band, to 275 Gigahertz. The ability to be "frequency agile" is one of the strengths of the amateur radio service.

At the community level, amateur networks typically use VHF (very high frequency) and UHF (ultra high frequency) spectrum. Communications requiring transmission over longer distances may be transmitted on amateur service bands in the HF (high frequency) portion of the radio spectrum. For more information on amateur radio or to share your perspective with the FCC on this important emergency preparedness and response mechanism, please contact us at PSHSB Webmaster.

## … Tech Topic 13: Amateur Radio Service Support to Public Safety Communications
To this point in our Tech Topics series, our subjects on public safety communications have focused primarily on interoperability and various methods and technologies for public safety organizations to attain interoperability with other organizations. In times of emergency when normal communications may not necessarily be available, there are alternative means available for public safety use. Within current rules of the FCC, the services of the amateur radio community are allowed to assist and support public safety

communications in times of emergency. This topic addresses the voluntary services provided by amateur operators and discusses the amateur organizations along with their relationships with public safety jurisdictions. This community of interest is also briefly described at other FCC information sites.[1] Amateur radio (also known as 'ham radio') services are regulated under Part 97 of the FCC rules.[2] Amateur radio operators are licensed users who operate radio communications among other amateur radio operators for a hobby or a voluntary service running within amateur radio frequencies allocated by the FCC[3]. To acquire an amateur radio license, radio operators are required to pass a licensing exam displaying knowledge and understanding of key radio communications concepts based on three general classes: technician, general, and amateur extra. [4]

When normal public safety communication systems are overloaded, damaged or disrupted because of a disaster, an amateur station may make transmissions necessary to meet essential communication needs and facilitate relief actions. In other words, amateur radio operators may voluntarily provide services within the amateur radio civil emergency communications services to support public safety purposes. This provision of emergency communications is regulated by Part 97, Subpart E, of the FCC's rules. One advantage of the use of amateur radio operations is the wide range of frequencies that are available for use by amateurs.[5]

One particularly distinctive amateur service that can be provided is known as the Radio Amateur Civil Emergency Service (RACES).[6] An amateur station in RACES is certified by a civil public safety organization as registered with that organization and as an FCC-licensed RACES station. RACES is supported by the Federal Emergency Management Agency (FEMA) acting as a communications group of the government. Registered members of RACES are authorized to respond when a governmental organization requests amateur radio assistance by an authorized representative of a city, county, state, or federal government, during periods of local, regional or national civil emergencies such as in a hurricane, earthquake, flood, wild-fire and so on. In emergency situations, RACES operators can only communicate with other RACES operators.

It is important to recognize that the amateur radio operators working under the auspices of RACES are certified by their local civil service agencies for this specific purpose. They serve as an extremely valuable resource because they are committed local citizens who may be relied upon in emergencies to stay and perform their duties. In addition, the certification process assures that the operators are properly trained to perform public safety functions as well as relieving the operators of legal culpability.

Some localities - for example, Arlington County, Virginia[7] - have more stringent training and certification standards than others, but the key component of the RACES program is the direct and recognized affiliation between the amateur radio operators and local authorities. In this capacity for example, RACES operators serve the county by passing critical emergency information from county officials with the County Emergency Response Team (CERT) to other RACES operators supporting other local agency officials at other locations such as emergency shelters or hospitals. Whether working in operational control networks (OPNET) or in logistics support networks (LOGNET), the RACES communications support provides a critical alternative link for local officials.

Although RACES stations may operate under the auspices of a formal agreement with a Federal, state, tribal, or local jurisdiction, there are other options for amateur support for the public in emergency situations. The other well known amateur radio service is called the Amateur Radio Emergency Service (ARES). Together with the National Traffic System (NTS), these services are broad programs of the American Radio Relay League (ARRL). The ARRL is a non-commercial association of radio amateurs bonded together for promoting the interests of radio communications and experimentation, for relaying of messages by radio, for the advancement of the radio art and of the public welfare, for the representation of the radio amateur in legislative matters, and for the maintenance of fraternalism and a high standard of conduct within the radio operator community.[8] ARES members are licensed volunteer amateur radio operators who are willing to provide emergency communications services to public safety and public service organizations. Most individual ARES units are organized by local members and localized by city or county, and perhaps state-wide, and usually operate autonomously. The ARRL describes the ARES program as follows.[9]

*"The Amateur Radio Emergency Service (ARES) consists of licensed amateurs who have voluntarily registered their qualifications and equipment for communications duty in the public service when disaster strikes. Every licensed amateur, regardless of membership in ARRL or any other local or national organization, is eligible for membership in the ARES. The only qualification, other than possession of an Amateur Radio license, is a sincere desire to serve. Because ARES is an amateur service, only amateurs are eligible for membership. The possession of emergency-powered equipment is desirable, but is not a requirement for membership".*

The operational details are well described at the web pages of the ARRL and operational status can be seen at the ARES organization web-site. [10]

Frequently, members of local ARES groups in the U.S. are registered with local government emergency management agencies to permit operations under the RACES rules whenever necessary. This allows continuity of operation during times of declared emergency when normal amateur operations might otherwise be prohibited. Today, ARES has operators and officials at local, county, and state levels and most potential RACES operations are generally integrated within other ARES organizations. In some states, the statewide amateur operators under ARES prefer to organize themselves to support civil service officials, however, it should be reiterated that only authorization under a RACES program allows official recognition of amateur support to government officials.

RACES and ARES are collaborative services even if they exist as separate volunteer entities. The ARRL encourages dual enrollment and cooperative efforts between both groups whenever possible. Either remains a vital resource for the public safety community in times of crisis.

---

[1] See http://www.fcc.gov/pshs/services/amateur.html.
[2] See http://www.access.gpo.gov/nara/cfr/waisidx_07/47cfr97_07.html.
[3] See FCC Part 97, Subpart D, Section 97.301 of the Commission's rules, 47 C.F.R. § 97.301.
[4] See Section 97.501.
[5] See the ARRL band plan at http://www.arrl.org/FandES/field/regulations/bands.html.
[6] See FCC Part 97, Subpart E, Section 97.407 and http://www.usraces.org/.
[7] See the Arlington County RACES web site.
[8] See http://www.arrl.org/.
[9] See http://www.arrl.org/FandES/field/pscm/sec1-ch1.html.
[10] See http://www.ares.org.

## About the FCC's Public Safety and Homeland Security Bureau

The FCC's Public Safety & Homeland Security Bureau (PSHSB) officially began operations on Monday, September 25, 2006. PSHSB is responsible for developing, recommending, and administering the agency's policies pertaining to public safety communications issues. These policies include 9-1-1 and E9-1-1; operability and interoperability of public safety communications; communications infrastructure protection and disaster response; and network security and reliability. PSHSB also serves as a clearinghouse for public safety communications information and takes the lead on emergency response issues. A primary goal of PSHSB is to support and advance initiatives that further strengthen and enhance the security and reliability of the nation's communications infrastructure and public safety and emergency response capabilities that will better enable the FCC to assist the public, first responders, law enforcement, hospitals, the communications industry and all levels of government in the event of a natural disaster, pandemic or terrorist attack.

## UPCOMING EVENTS

| Dates | Contest / Hamfest / Event | Location / Website |
|---|---|---|
| **2 March 2009** | **SARA Meeting – 7 PM** | **Rm.D-104 Niskayuna High School** |
| 7-8 Mar 2009 | ARRL International DX Contest (Phone) | Rules |
| 17-19 April 2009 | Eastern VHF/UHF Conference (North East Weak Signal) | Enfield, CT    http://www.newsvhf.com/ |
| 1-2 May 2009 | Near-Fest Hamfest  Deerfield Fairgrounds, NH | Deerfield, NH    http://near-fest.com/ |
| 15-17 May 2009 | ARRL National Convention (Dayton Hamvention) | Dayton,OH http://www.hamvention.org |
| 30 May 2009 | 75th Rochester Hamfest    www.rochesterham.org" | New site: Barnard Carnival Grounds |
| 27-28 June 2009 | ARRL Field Day / SARA Field Day | TBA (Probably Glenville?) |

Be sure to check out the ARRL Hamfest calendar for more detailed informations.  Go to   http://www.arrl.org/hamfests.html


## Ham Equipment Available

For Sale:  Transverter 10 meter to 2 meter Ten-Tec Model 12-10  with Radio Shack 13.6 volt @ 3 amp  power supply catalog # 22-504  $100  Contact  George N2JJE  Telephone 887-5019

SARA Has been contacted by Halsey Brown in Glenville and he indicates that his elderly father has ham equipment available. The equipment includes a Hallicrafters receiver and a Johnson Viking Navigator  transmitter both of fifties or early sixties vintage.  There is also a Johnson 1000 W Matchbox.  Contact Halsey Brown – Phone  tel.# (518) 312-2012.


## Silent Keys

Vic Handy – N2AQZ   It is with sorrow this month that we note the passing of long time SARA member and local TV broadcast engineer.  Vic was active on the VHF bands and in particular 6 meters.  Vic also was an active member of Schenectady County RACES and ARES.  (See SARA News Extra for more details)


**NEW ARRL/RSGB MICROWAVE HANDBOOK** – For SARA members with technical interest in the UHF and microwave bands may want to check out one of the newest microwave books from the ARRL.  The only complaint I have is that the print is really too small for comfort so be sure to have a magnifier on hand!  And of course there will be the need to "translate" some English technical terms to real "American English" (Valves, Earth, screening etc.)   /Dan N2UD:
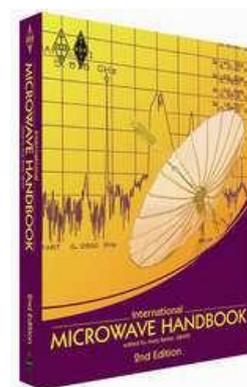
### International Microwave Handbook
-- Second Edition. Published by RSGB and ARRL
Edited by Andy Barter, G8ATD
This second edition of International Microwave Handbook provides reference information and designs from around the world of microwaves. It includes contributions from radio amateurs, organizations, publications and companies from all over. You'll learn the principles to designing and constructing equipment for the microwave bands, a popular part of the Amateur Radio spectrum.  Contents:
 Operating techniques   System analysis and propagation   Microwave antennas
 Transmission lines and components   Microwave semiconductors and valves   Construction techniques & equipment
 Test equipment for 1.3 GHz, 2.3 GHz, 3.4 GHz, 5.6 GHz, 10 GHz, 24 GHz, and above
544 pages. 2nd Ed. © 2008, published jointly by Radio Society of Great Britain (RSGB) and American Radio Relay League (ARRL).
Catalog #0330 -- $29.95  Available from the ARRL Bookstore


## BE AN ACTIVE HAM:  Get on the Bands, Build a piece of equipment, Get a friend interested.   And Join and Support the ARRL!

### S·A·R·A
### Schenectady Amateur Radio Association, Inc.
### MEMBERSHIP
### APPLICATION/RENEWAL FORM

**SARA Dues: Regular Member $20** _____ **New Member Initiation $5** _____ **Repeater Fund $** _____
**Family Member $5** _____ **Student Member $5** _____ **SARA News US postal delivery** *Add $5* _____

Name _____ Callsign _____

Email _____ (SARA News is sent via Email)

Street _____ I belong to ARRL ___ ARES _____ RACES ____

City _____ Zip Code _____ Telephone _____
Mail to: **Schenectady Amateur Radio Association Inc.; P.O. Box 449; Schenectady, NY 12301**

**Schenectady Amateur Radio Association**
**P.O. Box 449**
**Schenectady, NY 12301**