

QRZ NEWS

A MONTHLY PUBLICATION OF
SOUTHERN PENNSYLVANIA AMATEUR RADIO CLUB, INC
PO BOX 1033 - LANCASTER, PA 17608-1033

(Founded June 1960)

AN AFFILIATED SPECIAL SERVICE CLUB OF THE ARRL, INC.

"Public Service through Communication"

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March 2009

Next meeting Wednesday, March 18 at 1900

Rapho Township Municipal Building

MINUTES OF THE FEBRUARY 2009 MEETING OF THE SOUTHERN PENNSYLVANIA AMATEUR RADIO CLUB (SPARC)

Held Wednesday February 18, 2009 at the Rapho
Township Municipal Building

The following members, visitors, and guests
were present:

Dave Sarraf, N3NDJ

Rick Watson, N3SWJ

Mike Warner, N3XPD

Gerry Wagner

George Gadbois, W3FEY

Ross Kauffman, W3ZKU

Jim Silvius, K3WE

Ted Freedman, K3KSA

Harry Bauder, WA3FFK

Frank Koch, KB3CQF

Dick Hess, KB3LOJ

The meeting was called to order by President
Harry Bauder, WA3FFK, at 19:05 hours. The
usual round robin with introductions of all
present followed.

Dave Sarraf read the minutes of the December
2008 membership meeting. After one correction

noted, they were approved on a motion by Ted
Freedman and a second by George Gadbois.

Ted Freedman presented the Treasurer's Report.
Amounts shown are as of December 31, 2008.
All outstanding bills have been paid. The report
was approved upon a motion by George Gadbois
and a second by Ross Kauffman.

Old Business:

- The label on the post office box was
changed from REACT to SPARC. This
label had been in existence for several years
but was recently causing delivery problems.

New Business:

- Volunteers are needed for the audit
committee. They must be members but
not on the BOD. Ross Kauffman and
George Gadbois volunteered.
- An email was received from Jim Glass.
He wants to create a nationwide web
listing of repeaters and was asking for
the details of SPARC's equipment.
- Received an email from Keystone Trails
Association asking for help of SPARC
and RRTA to monitor a Superhike event
on September 12th. The hike would start
at Otter Creek, proceed over the Norman
Wood Bridge then end at Pequea Park.
The terrain results in many holes in cell

phone coverage, and they had been impressed with the capabilities of hams in the past. Their web site is <http://www.kta-hike.org/>

- A new member application was received from Gerry Wagner. The application was approved upon a motion by Mike Warner and a second by Jim Silvius.

On a motion by Mike Warner and a second by Jim Silvius and a unanimous vote of the members, the business portion of the meeting was adjourned at 7:29 PM.

Respectfully submitted,
Dave Sarraf, N3NDJ
SPARC Secretary

March Technical Program

New member Gerry Wagner will give a presentation on his experience with a 3kw solar cell installation and the interface with PPL. This is a home sized version of commercial implementations you have seen featured on TV. This is your chance to get a close up view of this new technology and how it works on a residential scale.

How green can you get?

Coming Events

- Greater Baltimore Hamboree and Computerfest, March 28-29, Timonium Fair Grounds, Timonium, MD
- York Spring Hamfest, Saturday April 18, 2009, 8:00 am to 2:00 pm , BROOKSIDE PARK, 4054 FOX RUN ROAD, DOVER, PA
- Sunday, April 26, 2009 – Tour de Ephrata Bike Race

Field Day 2009 - 27,28 June

SPARC will participate in Field Day again this year. Please mark the dates on your calendar. More information on plans will be published as the date approaches.

Ross, W3ZKU

Susquehanna Super Hike

SPARC and RRRA, the Red Rose Repeater Association, will be working together to provide communications support for a planned trail walk, run through portions of York and Lancaster County. The event is scheduled for September 12, 2009 and is sponsored by the Keystone Trails Association.

Just to give you some idea of the task before us here is the description from the KTA website:

The event will begin near the Otter Creek Campground and end in the Pequea Creek Campground. At least 11 significant climbs over 3,000' elevation gain are encountered along the route, which will prove a challenge to even the most adventurous hikers and trail runners. (And radio signals) Just a few of the highlights include Urey Overlook, historic Lock 12, crossing the Susquehanna River on the Norman Wood Bridge, Face Rock Overlook, Kelly's Run, the Pinnacle Overlook, and Wind Cave. In this timed event, participants are required – for safety reasons – to reach each checkpoint within a certain time period and to complete the course in 12.5 hours.

Ladies and Gentlemen, this is an opportunity for Lancaster County Hams to “strut our stuff” and enjoy some fresh air and exercise at the same time. Amateur Radio Operators interested in helping with this activity should contact Mark Vreeland, KB3NCJ,

secretary of RRRA. I will be meeting with Mark, and Harry Deverter, RRRA president in the next few weeks to work on planning for radio coverage.

Mark's email is mvreeland102@comcast.net.

Harry Bauder, WA3FFK

2009 MS Walk

I just received word from the MS Society that the 2009 MS Walk will be Sunday, April 19 starting at noon from Clipper Stadium. I would like Hams to arrive between 10:30 and 11 AM so we have time to make assignments and get on location before the start of the walk. The walk is usually over by 4 PM at the latest.

Please get the word out to the Red Rose and SPARC clubs and anyone else who might be interested. This is a fun and very worthwhile activity.

I would very much appreciate it if everyone who can help would email me to let me know so I have some idea how many Hams to expect.

73,
Rick Watson, N3SWJ

Board Meetings Open to all Members

The Board of Directors of the Southern Pennsylvania Amateur Radio Club meets on the first Tuesday of every month at 7:00PM in the Rapho Township Municipal Building. The Board consists of the following individuals:

President – Harry Bauder, WA3FFK
Vice President – Rick Watson, N3SWJ
Secretary – Dave Sarraf, N3NDJ
Treasurer – Ted Freedman, K3KSA

Immediate Past President – Mike Warner, N3XPD

Repeater Trustee – Dave Payne, N3LOM

Member at Large – Jim Silvius, KW3E

Advisory Member:

Newsletter Editor – George Gadbois, W3FEY

The Board meetings are open to ALL members in good standing of SPARC. Club members may attend meetings and provide input; however, they do not have a vote on any motions brought to the floor. It is our policy to read the minutes of the preceding board meeting at general membership meetings. The Board believes that it is not in the best interest of the Club to hold secret meetings.

Per Board of Directors March 2009

Editor's Notes

About one third of the TV stations in the United States converted to all digital on or before February 18th 2009. Locally, WLYH and WITF converted to digital on schedule. The WITF transition was a bit bumpy for Dish Network. It took a couple of days to get the display correct.

In the Midwest, one frustrated viewer shot his television set when he couldn't get his converter box to function. That's one way to justify the purchase of a new digital receiver. This is not the first time a TV receiver was shot by its' owner.

Ross Kauffman gave an excellent presentation of the use of converter boxes at the February SPARC meeting. Given the ~600' elevation at the Rapho Twp. Municipal Building, the results were very favorable with rabbit ears. In addition to local TV stations, Ross demonstrated an almost usable digital signal from WCAU in

Philadelphia. With an outside antenna on a rotator, there would have been many more digital signals available. Unfortunately most people don't have the advantage of high elevation and a long clear shot to the horizon. Ted Freedman, K3KSA, assisted with the presentation.

I don't know what the cable companies are doing, but Dish Network is not carrying the secondary and tertiary digital channels so it looks like I need an outside TV antenna. Does anybody know how the cable companies are handling the digital signals from local TV stations such as WITF and WLYH?

Unfortunately, the weather was not favorable for the February meeting and that limited the number of visitors. Perhaps this program should be repeated as June 12th approaches.

Newspaper reports I have read say that the issuance of new \$40 coupons will end on March 31, 2009. Those coupons will expire 90 days later if not used. I would think every ham would want a converter box for the ham shack

The summer sporadic E season is coming in May so get ready for some DXing fun. We'll publish more on 6m as the summer approaches. Six meters is a transition band between HF and VHF with a mixture of propagation modes that make for a lot of excitement.

I know that we have readers with many different interests and levels of understanding. Is there a need for some beginners coverage and if so on what topics? I am always looking for material to publish especially if I don't have to write it.

73, George W3FEY

ARES/RACES



As part of the clubs commitment to emergency communications, the SPARC repeater system is maintained as available for linking with other area repeaters.

Lancaster County VHF Net is held on the first Tuesday of the month at 2030 hours local time. Presently being held on the 145.230, 145.310 and 147.015 (+ offset) MHz repeaters with minus offset and 118.8 PL.

The Lancaster County primary ARES/RACES repeater is on 145.310 MHz with minus offset and 118.8 PL.

Combined York County Amateur and ARES/RACES NET convenes at 8:30 PM (2030) Mondays on 146.97.

Pennsylvania RACES HF Nets are held at 3993.5 kHz LSB on all Sundays except holidays.

The statewide net is on the first Sunday of the month at 0800 hours local time.

The Central Area (including Lancaster County) net is at 08:30 local time.

SPARC Nets

SPARC holds nets on the 2nd, 3rd, 4th, and 5th Tuesday (every Tuesday except the first) at 2030 local time on 145.230 MHz minus offset and a PL of 118.8.

Club Officers

President Harry Bauder – [WA3FFK](#)
Vice-President: Rick Watson - [N3SWJ](#)
Secretary - Dave Sarraf. - [N3NDJ](#)
Treasurer - Ted Freedman - [K3KSA](#)
Repeater Trustee - Dave Payne - [N3LOM](#)

Past President - Mike Warner – [N3XPD](#)
Board of Directors - Jim Silvius – [KW3E](#)

Other Nets of Local Interest

Delaware Co. Mobile Sixers Net Schedule
Sunday 2000 50.550 MHz USB

Cumberland Co.

Monday 2130 144.160 MHz USB
Packrats 1296.100 MHz USB net Mondays
at 2130 local time

Bob, W2SJ, Pennsauken, NJ, FM291w, is temporary net control while K3TUF is coaching Special Olympics. Bob has a good signal into Lancaster County. He looks west ~ 2135-40.

QRZ News Publication

QRZ News is published monthly on the second Wednesday of each month, one week before the monthly meeting. Deadline for article submission is the Tuesday before publication.

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Can anyone provide copies of the issues missing from the archive?

Will BPL Ever Go Away?

It seems that BPL has come back again. See this link

http://www.theregister.co.uk/2009/02/20/ibm_ibec_rural_broadband/

Dave Sarraf, N3NDJ

VE Testing Available

If anybody would like a testing session LVSRA, in Lebanon, gives all 3 exams monthly at their breakfast meeting on the third Saturday of the month. Testing starts about 0730. Cost \$14.

Meetings are held at Heisey's Diner, 1740 State Route 72N, Lebanon, PA Use the back entrance.

Good luck to all exam candidates!
73
Ron WB200B

SPARC regularly provides examinations for the various classes of license. These are held on the third Thursday of every even numbered month at 19:00 hours (7:00 pm). Meet at the Lancaster County Emergency Training Center which is located on Champ Rd off of RT-283 West of Lancaster near the Salunga Exit.

Persons desiring testing must be in the lobby by 1845 hours, or 6:45 PM. For more information regarding testing, contact [James "Yogi" Bear](#). The test dates for 2009 are as follows:

February 19	April 16	June 18	August 20	October 15	December 17
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10 & 24 GHZ Test Report

In the spring a young man's fancy often turns to.....microwave ops!!!!...Yes it does and taking advantage of the nice WX on Sunday 8 March, I went to the WITF Ch 33 TV site in FN10ni and made 10 & 24 GHz QSOs at about 45 miles with 3 stations.

I worked Roger, W3SZ in Reading on both 10 & 24 GHz with many db over S9 signals both ways on 10 GHz and S-8 in SSB on 24 GHz.

Phil, K3TUF and I worked over the mountain, much to his delight, with many db over S9 strong signals on 10 GHz and weak CW on 24 GHz. Phil said my signals were 15-20 db out of the noise on 24.

I also worked Len, N3NGE, with over S9 signals on 24 GHz.

My 10 GHz rig is 5.4 watts with DB6NT gear to a 24 inch offset dish using a W1GHZ 10 & 24 GHz dual-band feed. My 24 GHz rig is 1 watt to a PROCOM 50 cm dish with Penny feed.

We used 144.260 MHz USB horizontal polarization for liaison.

73, John W3HMS, 9 Mar 09

For Aviation Buffs

See the following link for an amazing RC model of a B29

<http://users.skynet.be/fa926657/files/B29.wmv>

For more detailed information see

<http://www.trade-show-guru.com/2008/12/chainsaw-powered-b29/>
See especially comment #5.

Sporadic E, The Pieces Fall into Place

If you've been on 6m much, you know that occasionally very strong distant signals may suddenly appear for minutes or hours. This is usually caused by ionization of the E layer in the ionosphere. The periods of most intense ionization of the E layer occur in the summer for a period of a few months centered on July 4th. There is a much weaker secondary peak in the winter centered around January 4th.

The E layer is about 70 miles up and propagation out to about 1500 miles for a single hop is possible. If you hear stations working at much shorter distances, check 2m or even 222 MHz. Two and three hop Es is rare but it does happen.

For those new to Amateur Radio, the mechanism of multiple hops involves a reflection off an ionospheric layer that then reflects off the ground back to the ionosphere for another reflection. Typical long distance HF propagation is off the F2 layer at about 120 miles. This is sunspot related and supports global propagation. The sunspots are observable and the effects very predictable. VHF and UHF signals go through the F2 layer into outer space.

Last summer I worked Lance Collister, W7GJ, in Montana with an S9 signal. That was a short double hop contact. Lance started his Amateur career in Lancaster, PA as WN3GPL near Blossom Hill.

See [QRZ News for November 2008](#) for a report on the CY0X DXpedition to see what Es can do for 6m propagation. That DXpedition was deliberately scheduled around July 4th 2008. There is a detailed report of the Sable Island operation in the winter edition of [CQ VHF magazine](#).

There is little or no relation between Es and sunspots. For many years hams and other researchers have tried to understand and predict Es. There is some great progress on understanding the mechanism of Es, but Es propagation will remain sporadic and more or less unpredictable.

In the March issue of [World Radio](#), Carl Luetzelschwab, K9LA reported on work published in the Journal of Geophysical

Research, **An explanation for the seasonal dependence of midlatitude sporadic E layers** (Haldoupis, C., D. Pancheva, W. Singer, C. Meek, and J. MacDougall, Vol 112, A06315, 2007). The authors concluded that both the sporadic E critical frequency (foEs) and the meteoric influx (radar daily count rates) follow a similar seasonal dependence marked by a strong summer maximum with a minor peak in the winter. See the seasonal graph at the end of this article.

Meteors entering the atmosphere start to burn about 75 miles up in the E layer. This accounts for moderately heavy metallic ions in the ionosphere. The heavy atoms are not likely to get there from the surface of the Earth.

Why is there a major peak in random meteors centering around July 4th? On July 4th, the earth is at aphelion, the Earth's greatest distance from the sun. The date of perihelion, the nearest approach to the sun, is January 4th. Note the coincidence between these dates and the major and minor peaks in random meteor activity.

“The meteors classify as random and shower meteors, with the former being responsible for about 90% of the meteoric material deposited in the upper atmosphere [e.g., see *Ceplecha et al.*, 1998].”

As the Earth goes around the sun, it collects debris in its' path. At aphelion, the Earth is probably collecting fragments that have drifted from the asteroid belt between Mars and Jupiter. At perihelion, it is presumably picking up leftovers closer to the sun.

These radar studies provide convincing evidence for the source of the observed ionospheric metal ions. How do they get ionized to enhance propagation? That

remains the sporadic and unpredictable part of the story.

The omnipresence of impact craters on every object visited by space probes makes it clear that there are ongoing collisions that produce small and large meteoric debris. The ability of a body to clear its' orbital path of debris is one of the criteria for determining whether or not it is large enough to be called a planet. This is one reason for the demotion of Pluto to a planetoid. That debate on that is not over.

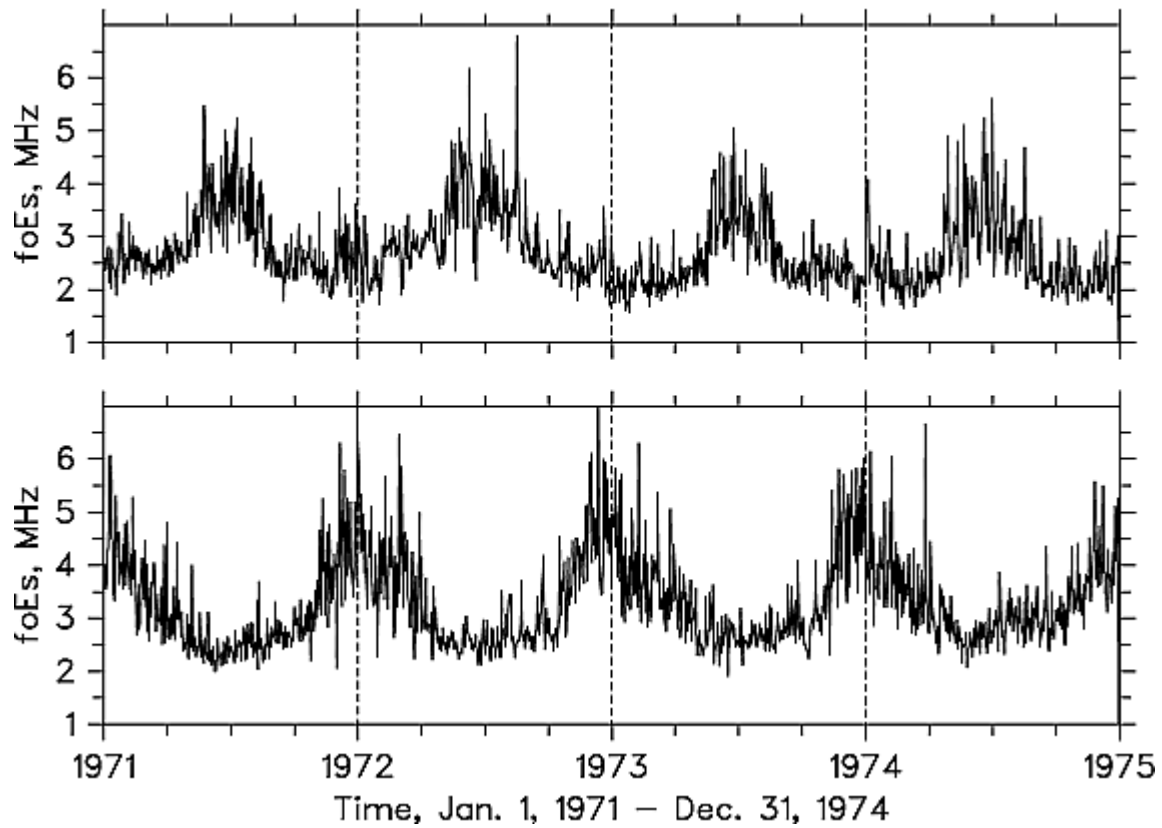
The summer Es season starts in mid May and lasts into August. Spring is near so it's time to get your station ready for 6m fun this summer. SSB, CW and horizontal polarization will produce by far the best results. An old TV rotator with a one to three element beam will be great. I use an M² loop at about 30' with good results when the openings are strong. I don't have space to rotate even a dipole.

See also **Six Meters a Guide to the Magic Band**, Neubeck, K., WB2AMU, fourth edition 2008, Worldradio Books.

Good DXing! George W3FEY

See graph following page from the Journal of Geophysical Research, **An explanation for the seasonal dependence of midlatitude sporadic E layers** (Haldoupis, C., D. Pancheva, W. Singer, C. Meek, and J. MacDougall, Vol 112, A06315, 2007).

top: Boulder (40 N); bottom: Concepcion (36.6 S)



Time, Jan. 1, 1971 – Dec. 31, 1974
Typical annual variability of sporadic *E* critical frequencies f_oE_s measured simultaneously in the Northern (Boulder, 40°N) and Southern (Concepcion, 36.6°S) Hemispheres. This seasonal variation, which has been known for many years, is dominated by a strong summer maximum.