MOUNTAIN SPARK GAPS

Bring Your Valentine to the Meeting
Monday February 14th, at the Salt Brook School

From: The Prez
"Fishing about the Net"

Thanks to Bob, K2GLS, for his terrific presentation on FM deviation and measurement at the January club meeting. I still think that the technical expertise and diversity of our club members makes NPARC one of the best clubs in the state. And in listening to the suggestions from the new club officers, this year will be one filled with better and better presentations, projects and activities.

One issue which was discussed at the last club meeting was the status of the NPARC RTTY net. The general feeling is that we would like to keep the net going. With all the new digital modes available today by the use of a sound card and some software, it was suggested that we try them out on the net. I believe a few of us have talked about it off and on when we built the RASCAL kits as a club project but never got serious about it. Ralph, KC2RLM, is quite an expert on the use of sound cards and digital modes and has been leading the discussion about trying out new modes on the net. I must admit I still prefer RTTY. I have tried PSK-31 and enjoyed it, but there is still something about RTTY that makes it a great mode.

We are open to suggestions, and I think we should do something. Perhaps we can get those members who built the RASCAL kits to blow off the dust, untangle the cables and get on the air. It will be a great way to trouble shoot and maybe will eventually lead to some HF contacts on PSK-31 or SSTV! It will be nice to hear some tones on 145.75 again.

Sound Cards and Digital Modes
Presentation on Monday Feb. 14.

The subject of the next NPARC meeting is described on Page 3 of this issue of Spark Gaps. Ralph Milnes KC2RLM has written a "DigiTales" article describing most of the things we have to know in order to use the large array of Digital Transmission modes which are now popular on ham radio. As Ralph explains -- many of the "new modes" are intended for use on HF, but by use of sound cards, found on most of our computers, they can be used on VHF FM just as well.

Ralph will be assisted in his presentation by Eric Grosse N2VI and probably by other members with experience in using these Transmission Modes.

We've all heard and are familiar with the AFSK teletype signals long used on 145.75. Many of us have heard the various whistles and squeals transmitted on 14.230. Some have heard the "hiss and static" of packet signals on 2 meters. Now's your chance to understand what's producing these signals, and try them out yourself with other NPARC members.

In club news, another reminder that the date for the Annual NPARC Auction is Friday, April 8, 2005 at the Salt Brook School Cafeteria. So reserve the date and keep looking around the shack for good stuff to auction.

Thanks to Vince, KC2IZK, and Rick, WB2QOQ, for the refreshments at the last club meeting.

And welcome to new club member, Bob Clark, AA1HA, who recently moved here from Vermont, and who was at the meeting.

Hope to see everyone at the meetings and on 145.75.

73 es 88 de Al K2AL

Meeting Schedule

Regular Meeting: 7:30 - 10:00 PM
2nd Monday of each month at the
Salt Brook School Cafeteria
Springfield Ave. and Maple St.
New Providence.

4th Monday each month: 7:30 - 9:00
Informal Project Meeting, at the
Salt Brook School Cafeteria
Springfield Ave. and Maple St.
New Providence.

Everyone is Welcome
If a normal meeting night is a holiday
we usually meet the following night.
Call the contacts below.

Club Officers for 2005

President: K2AL Al Hanzl
908-464-1323
Vice Pres: N2VI Eric Grosse
908-322-9653
Secretary: KC2RLM Ralph Milnes
973-377-7061
Activities: K2EZR Frank McAneny
908-464-5285
Past President: AB2CM Harry Schwill
908-322-8867
Treasurer: K2JV Barry Cohen
908-464-1730

On the Air Activities

<u>Club Operating Frequency</u>
145.750 MHz FM Simplex
<u>Sunday Night Phone Net</u>
Whippany Repeater at 9:00 PM
Transmit on 147.63 MHz
Receive on 147.03 MHz
Net Control: KB2IKC
<u>DIGITAL MODES Net</u>
Sunday evenings 8:00 to 9:00 PM
Various modes on 145.75 MHz
Net Control: TBD

Club Internet Addresses

Website: http://www.qsl.net/nparc
Reflector: nparc@mailman.qth.net
Webmaster: KC2RLM, Ralph

MOUNTAIN SPARK GAPS

Calendar of Coming Events

February 7th: Tri-County ARC Meeting at 8:00PM
at the Westfield YMCA

February 14th: REGULAR MEETING at Salt Brook School
Introduction to Digital Modes and "sound cards."

February 28th: PROJECT MEETING at Salt Brook School
More on Digital Modes with Demonstrations

March 12th SATURDAY: CHERRYVILLE HAMFEST

March 14th: REGULAR MEETING at Salt Brook School
Bob Barns KB2IKC and Barry K2JV discuss Batteries.

March 28th: School is CLOSED. Project Meeting may be rescheduled.

April 8th FRIDAY: NPARC ANNUAL AUCTION
at the Salt Brook School

April 11th: No Meeting. Recovering from the Auction!

April 22nd FRIDAY: HOBBY DAY at Mountain Park School

May 20 - 22: DAYTON HAMVENTION. It's not too soon to think about
attending this year!

June 25/26: FIELD DAY Weekend. Planning sessions in April and May.

MORE EVENTS??? Send info to k2jv@arrl.net!!

No Further Excuses for Improper FM Signals

Bob Willis, K2GLS, complete with scanner, modification kit, SSB receiver and spectrum analyzer explained the fundamentals of FM signals at the Club Meeting of January 10th. In an elegant presentation, Bob demystified the meaning of carriers, sidebands, modulation index and deviation, and then he explained the connection between these signal parameters and the observed, on-the-air bandwidth.

Almost all of us use FM or some version of it on our 2 meter Club Frequency. Since there is always a lot of talk about "having the proper deviation" for use on a repeater, we'll work on Bob for a follow on presentation to incorporate actual measurements on our VHF and UHF rigs. Perhaps he'll explain to us then, what happens at the repeater when our signals don't have the correct index and deviation, and how we can fix the problem.

Sound Card Digital Mode Ingredients

I'm very excited about the club's expanded Sunday night "digital net" as announced in this issue of the Spark Gaps. I think we can have loads of fun trying different soundcard-based digital modes. And since the theme for the February club meetings is sound card digital modes, it's a great time for everyone to get started in this facet of ham radio!

So what are the necessary ingredients for sound card digital modes?

- **A Radio** – most sound card modes are intended for use on the HF frequencies, however, our digital net will take place on a VHF frequency where Technician-class hams can participate. For this local net, you'll need a "two meter" radio capable of tuning to 145.75 mHz. (Even a hand-held radio will work, but its signal strength could be a problem. A good antenna for it will help, particularly for transmitting.) And of course an HF radio can be used for "real" digital communications with hams around the globe.

- **A Windows computer with a sound card** – Most of the sound card digital programs we will use will run on a "basic" Windows desktop or laptop, although some programs may require a higher-level processor and more RAM. I can't be more precise because many components affect the computer's overall ability to handle the digital signal processing that takes place with sound card modes. "Try it and see" is the best advice I can give. Any recent-vintage (within 5-6 years) sound card should work, but occasionally we find cards that won't work with some programs; again, "Try it and see".

- **Software** – All of the modes we will try will use free Windows programs that you can download from the internet (or we can make up a CD for you). The new "Digital Net' web page on the club web site http://www.qsl.net/nparc/digitalnet.htm lists the digital "mode of the month" with download and information links for each mode. (You can do your own web search for even more info about a mode.) Unfortunately, there is little software for Apple/Mac users and only slightly more for LINUX users.

- **Sound Card to Radio Interface** – You'll need some way to feed audio signals to and from your radio and your sound card. Generally this is handled with 3 wires (audio in, audio out, PTT control) that together are called an interface. The basics of getting or making an interface are discussed in the April 2004 DigiTales (page 4 of the April '04 Spark Gaps) and at http://www.qsl.net/nparc/library/soundcardinterfaces.htm

At the club meetings this month you will be able to see such interfaces and get advice about how to obtain one. Note that you may need a different interface for each radio you use. The interface connections to the computer are generally fairly standardized, but the connections to the radio vary by radio manufacturer and model. Concerned that you may get the interface and your computer/sound card may not be adequate? We can lend you an interface & radio to test them.

You can even experiment with WA2DKJ's patented "poor man's wireless interface". To receive, put your computer microphone next to your radio's speaker. To transmit, put your radio microphone next to your computer speaker and simply push the PTT right before you click on the "transmit" button in the computer program.

Getting It All Working

I won't kid you – getting a sound card mode to run correctly for the first time can be challenging. You need to get all the ingredients above set correctly, plus you need to know about setting your sound card's "mixer" settings. But after you get that first mode to work, it's much easier to get other modes working. For more information and advice about how to do that, visit the **Sound Card Digital Modes** web page in the "Library" of the Club web site:
http://www.qsl.net/nparc/library/soundcardmodes.htm   73, Ralph

Membership Registration

NPARC - The Watchung Mountain Area Amateur Radio Club
P.O. Box 813, New Providence, NJ 07974-0813

If you have not paid your dues for 2005 - Please do it now.

Full Name_____ Spouse Name _____

Address _____ City _____ Zip _____

e-Mail Address _____

Home Telephone (_____) _____

Office Telephone (_____) _____

Call _____ Class _____ Expiration Date _____

Birthday (Month and Day are sufficient) _____

ARRL Member? _____ Life Member? _____

Can you operate 145.75 MHz FM? _____ Mobile? _____ HT? _____

Can you operate on 440 MHz FM? _____ Mobile? _____ HT? _____

Can you give a technical presentation at a Club Meeting?
Subject??_____

Please return this entire form.

Dues are $20.00 per year for Members, $10.00 per year for Students.
Dues may be paid by cash or personal check made to NPARC and sent to:

Barry G. Cohen, Treasurer
39 Cromwell Court
Berkeley Heights, NJ 07922

Dues for 2005 are payable NOW!!