MOUNTAIN SPARK GAPS

NPARC - The Radio Club for the Watchung Mountain Area

VOLUME 40 | March 2005 | NO. 3

N2XJ
Club Callsign

Regular Meeting Scheduled for

Monday March 14th, at the Salt Brook School

March Project Meeting Relocated to Rec. Commission

From: The Prez

I just returned from the Splitrock Hamfest. It was a beautiful day, packed with visitors and quite a few NPARC members were there. I purchased a nice binder to hold QSL cards, and as I was going through my old cards I found a picture of my original "shack" in my bedroom when I lived in Carlstadt. It was quite a neat looking set-up with a Heathkit SB-100 and SB-600 with a D-104 microphone and NCL-1000 kilowatt amp. The amp was not the best and always arced. I eventually replaced it with a Heathkit SB-200. I guess I let my parents worry about the TVI in the neighborhood and I wish my current shack was that organized!

For those longing for the "good old days", there are opportunities to do so. Our club auction is on Friday April 8th. Through the generosity of Val, XYL of KB2BBP, SK, there will be some classic Heath gear available, namely an SB-301 and SB- 401 (pictured).

Despite EBay, the last several auctions have been well attended. Don't forget that a successful auction depends on all our club members. Look around for ham gear you are not using and bring it to the auction.

(Continued in next column)

All About Batteries

On Monday, March 14th, Bob Barns KB2IKC and Barry Cohen K2JV will present a lecture and demonstration about the various kinds of batteries used in Ham gear.

Bob will explain the meaning of the various battery chemistry systems in common use. He will point out why Lead-Acid batteries are usually used as car batteries, and occasionally as radio batteries too. He will describethe advantages and disadvantages of Nickel Cadmium, Nickel-Metal Hydride, and Lithium-ion systems which are commonly used as small cells to power HTs and small radio equipment.

Barry will present actual charge and discharge curves for many different types of batteries. His object is to demonstrate some of the advantages and disadvantages pointed out by Bob. If all goes well, he'll demonstrate the equipment used to collect the data including an automatic battery discharge unit, and the method of recording battery terminal voltage and temperature during charge cycles.

The main purpose of the presentation is to give the club members a better appreciation of which battery system is best for a given application, and how to tell whether your batteries are in good shape, and ready for the next emergency drill.

The club web site has a full schedule of club activities. Ralph, KC2RLM, has posted a terrific calendar of coming events on the site. Also, the Sunday Night Digital Net at 2100 hours has become a big hit with lots of participants. This is SSTV Month on the net. Hope to see you there and at the meetings.

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
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908-464-5285
Past President: AB2CM Harry Schwill
908-322-8867
Treasurer: K2JV Barry Cohen
908-464-1730

On the Air Activities

Club Operating Frequency
145.750 MHz FM Simplex
Sunday Night Phone Net
Whippany Repeater at 9:00 PM
Transmit on 147.63 MHz
Receive on 147.03 MHz
Net Control: KB2IKC
K2AGI Memorial Digital Net
Sunday evenings 8:00 to 9:00 PM
Various Modes 145.75 MHz
Net Control: K2GLS

Club Internet Addresses

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

MOUNTAIN SPARK GAPS

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KC2RLM Ralph Milnes
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Climatological Data for the Watchung Mountain Area Provided by WB2QOQ, Month of February

	2005	2004
Maximum Temp.. °F:	**58**	**59**
Minimum Temp. °F:	**14**	**9**
Average Temp. °F:	**33.2**	**32.0**
Total Precip Rain/Snow (in.):	**2.29/16**	**2.3/1**

The above information was provided by WB2QOQ, who has been recording daily weather events at his station for the past 23 years.

Calendar of Coming Events

March 14th: 3:00PM - SALT BROOK STATICS
Regular Meeting - Conversation with an Astronaut, and learning to use Repeaters.

March 14th: REGULAR MEETING at the Salt Brook School.
Program on battery chemistry and charge/discharge cycles.

March 28th: 7:30PM - Technical and PROJECT MEETING at the New Providence Recreation Commission conference room. Continuing program on Digital Mode setups.

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

April 11th: REGULAR MEETING Watch for notice of location and subject.

April 22nd: FRIDAY, HOBBY DAY at Mountain Park School in Berkeley Heights.

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

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

Comments on the K2AGI Memorial Digital Net

Many members have sent in comments about their experience on the new Digital Net, held on Sundays at 8PM local time:

We have been working out the problems in coordinating the order and getting everyone transmitting good signals, but it has been fun once we get going. There are seven regular checkins: W2OKO, KC2EYG, K2EZR, WA2DKJ, N2VI, KB2FCV, KC2RLM, with K2AL receive only. I hope I have not forgotten anyone. Next week we try SSTV. de K2GLS

My only hassle is adjusting the various volume sliders in the PC and the receive volume knob on the radio to provide correct transmit deviation and optimal reception across the different modes. I look forward to setting up on HF sometime. de N2VI

I have participated in the "K2AGI NPARC Digital Net" for the past couple of weeks and it has been fun and well attended. de WA2DKJ

So far we have primarily been using PSK31 and trying to get everyone's audio level properly adjusted. That is far from an easy task when using FM. March is going to be dedicated to SSTV and we will probably have more and different problems to solve. de K2EZR

I seem to solve one problem and another appears. After reading about WA2DKJ's set-up, however, I feel inspired to continue the cause and conquer my "digital demons"! de K2AL

DigiTales by Ralph Milnes KC2RLM

Slow Scan TV (SSTV)

In March, the featured mode on the K2AGI Digital Net (Sundays at 8 p.m. on 145.750 MHz) will be Slow Scan TV (SSTV), one of two amateur TV modes.

SSTV and ATV – The other TV mode is known as Amateur TV or ATV. ATV is identical to commercial TV and transmits a constant stream of images. SSTV on the other hand is a form of facsimile (fax) where a single image is sent in a series of lines. Because of the high amount of information needed to convey moving images, ATV – and broadcast TV – must be sent in the VHF or UHF bands where the frequency rate permits wide bandwidth (about 3000 Hz). On the other hand, SSTV signals are only 3 Hz wide, the same as a SSB signal, so they can be sent on any band. In fact, 14.230 MHz USB is a favorite frequency for world-wide SSTV transmissions (also 14.233 USB, 7.171 LSB, and 3.845 LSB).

SSTV lines are sent in a continuous stream of "tones". Each shade of color has a representative tone between 1500 Hz (e.g. black) and 2300 Hz (e.g. white). Typically SSTV images are full color, 320 lines long by 240 columns wide, with each line transmitted 3 times (the 3 RGB colors). A wide variety of SSTV modes use different mixes of image quality (lines, number of colors) and transmission time. A color image in the most common mode takes 2 minutes to transmit.

History of SSTV – Copthorne Macdonald VY2CM (http://www.cop.com/aboutcop.html) came up with the idea for SSTV in 1957-58 as a university student. His original equipment included a camera, monitor, and homebrewed radio connection. Images were "black and white" and transmitted during an 8 second interval. Received images were displayed on a surplus radar display screen with long-persistence P7 phosphor, but disappeared after a few seconds. The only way to preserve received images was to photograph the screen!

In 1960, the FCC allowed the first amateur SSTV 'test' transmissions, but it wasn't until 1968 that the FCC allowed Advanced and Extra class hams to freely transmit SSTV. In 1970, the first color SSTV image was transmitted and the first commercial SSTV systems appeared. The different transmission protocols used by the different equipment manufacturers resulted in many different SSTV modes, including Robot, Scottie, Martin, and AVT. In 1997, personal computers and sound card-based programs simplified the required SSTV equipment, but the old transmission modes are still replicated in today's sound card software. Scottie1 is common in the US and Japan, and Martin1 is common in Europe. (The software automatically detects the mode being sent by the VIS code in the first line.)

Actually, SSTV uses an analog transmission mode, as does ATV. A higher resolution SSTV mode called DSSTV (Digital SSTV) was recently developed, although it's more of a file transfer protocol than a SSTV mode. See the February 2004 QST or http://www2.arrl.org/qst/2004/02/taggart.pdf for more information about DSSTV.

Getting Started in SSTV – Other than your radio and a computer, you only need three things for SSTV:

1. A sound card-to-radio interface - see the DigiTales article in the April 2004 Spark Gaps: http://www.nparc.org/newsletters/Apr04MSG.pdf
2. An SSTV sound card program - I recommend a Windows program called MMSSTV. Most of the club members also use it, so you're likely to find setup and operating help if you need it. You can download MMSSTV at: http://mmhamsoft.ham-radio.ch/mmsstv/index.htm I suggest you take a little time to browse the program's 'Help' file to learn how to use it. You can also get help at http://ca.geocities.com/antennas/index.htm
3. Images - MMSSTV will transmit .jpg, .bmp and .wmf files. You can send images that you copy from the internet, import from your digital camera or scanner, or create in a graphics program.

You can learn more about SSTV in a slightly dated Sept. 1997 QST article: http://www.arrl.org/tis/info/pdf/99753.pdf

I hope you'll join us on the Digital net this month to try SSTV! 73, Ralph