

MOUNTAIN SPARK GAPS

NPARC - The Radio Club for the Watchung Mountain Area



N2XJ

Club Callsign

VOLUME 42

September 2007

NO. 7

Meeting on Monday the 10th at the Salt Brook School featuring A Presentation by Barry, K2JV, about EZNEC Antenna Modeling Software

President's Column by James, KB2FCV



Summer is drawing to a close and NPARC has had a great summer. Barry and Norma hosted a great Barbeque this year, with delicious kebabs, salads, and many other great foods. Several other members brought other delicious things such as Tebouli and other tasty deserts. Although the weather was a little wet, we had a great time inside. If I haven't said this enough, my thanks to Barry, Norma, and everyone else who made the picnic happen.

For the summer meetings we have been located in the Municipal building since the school is closed until it's reopening in September. The main focus of the meetings in the summer has been the SDR kits. As a side focus, there has been much attention given to soldering techniques for surface mount devices. We have seen techniques such as hot air soldering, solder pool soldering, and several different types of flux. We've learned quite a few things about soldering! The kits are progressing very well. Several members have already completed their kits and many are near completion. I for one am very excited about the performance of some of these kits. A weekend or so ago I was able to see one of the receivers I built work as it was supposed to!

My wife and I decided to go up and visit a friend up in Maine, Henry W2QF. Since HF radio would be involved in this trip, one of the many things I brought along was my 20 meter SDR receiver that I had built. At one of the last NPARC meetings we were able to pick up the K2 signal on it, but not much else since 20 meters had already quieted down for the night. One of the afternoons I decided to show Henry what SDR was all about. I downloaded some SDR software to his PC, we hooked up his antenna and some power and 'fired' up the little radio. To my amazement, we saw some signals! We saw several in the CW portion of the

(continued on page 6.02 dBp - see note 1 at end of newsletter)

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 2007

President: KB2FCV James Kern
908-219-4016
Vice Pres: KQ2E Bruce Havourd
908-277-2861
Secretary: WB2EDO Jim Brown
973-829-1892
Treasurer: K2YG Dave Barr
908-277-4283
Activities: K2AL Al Hanzl
908-464-1323
Past President: K2AL Al Hanzl
908-464-1323

On the Air Activities

Club Operating Frequency

145.750 MHz FM Simplex

Sunday Night Phone Net

Murray Hill Repeater at 9:00 PM
Transmit on 147.855 MHz
with PL tone of 141.3 Hz
Receive on 147.255 MHz
Net Control: K2AL

K2AGI Memorial Digital Net

Various evenings 8:00 to 9:00 PM
Various Modes 145.75 MHz
Info Contact: AB2WF Scott

Club Internet Addresses

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

MOUNTAIN SPARK GAPS

Published Monthly by NPARC, Inc.
The Watchung Mountain Area Radio Club
P.O. Box 813
New Providence, NJ 07974
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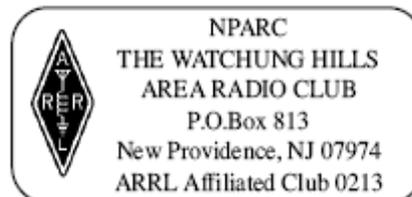
September meetings to be held in the Salt Brook School Cafeteria

The Salt Brook School will reopen for classes before our meetings in September. The 10th and 24th are the two dates scheduled and the meetings will start at the usual time of 7:30 pm. We will start off at Salt Brook with Barry's more formal presentation in place of the summer's informal kit construction.

New Members & New Licenses

David Berkley, K2MUN, recently joined our club. He had been inactive for almost fifty years and then took the exam to join the Amateur Radio ranks once more. After passing the technician exam he was issued the callsign KC2RWP, but after moving up to General class David acquired his old call through the vanity callsign program with the FCC. Not stopping there, David studied hard and passed the Extra exam, too. Congratulations David and welcome our club.

Jozsef Hollosi, K2HIX, recently passed his technician exam and has been involved with our SDR kit building this summer. He caught on quickly to the experimenting spirit of our club and gave a demonstration at a meeting of his simple unipolar DC electric motor. Congratulations to you, too, Jozsef!



September 10th meeting - Antenna Modeling Software

The idea of simulating an antenna with a computer is an attractive alternative to constructing and erecting a prototype in many cases due to the time, effort and size involved. Harnessing modern computer power can greatly reduce the time and effort -- if only we knew what software to use and how to use it. Well....Barry, K2JV, will give a presentation on how to use the EZNEC antenna modeling program. EZNEC is a version of NEC (stands for Numerical Electromagnetics Code) that has been adapted with a modern, more user-friendly interface by Roy Lewallen, W7EL. Barry is not intending to model all sorts of big, complicated antennae, but rather show the audience how to get started. Fortunately, a quite capable free version of this program is available and those who would like to know something about it prior to the meeting can go to W7EL's website: <http://www.eznec.com/>

Meeting Schedule for the Next Few Months from Al, K2AL

The following dates are approved for use of the Salt Brook School Cafeteria for NPARC meetings:

2007	September	10	&	24
	October	8	&	22
	November	12	&	26
	December	10	&	No second meeting, but there will be a Holiday Luncheon
2008	January	14	&	28 (cafeteria not available, location to be determined)
	February	11	&	25
	March	10	&	24
	April	14	&	28
	May	12	&	27 (Tuesday)
	June	9	&	No second meeting location scheduled so far

Badges and Hats Coming to a Meeting Near You! from Barry, K2JV

For those who ordered a new or replacement Badge -- I now have them in hand and will bring them to the meeting on Monday the 10th. For those who are "new Members" and never had a Badge issued to them, they are free. For those who ordered a duplicate or replacement badge the charge is \$16 payable to NPARC. There are also a few guys who asked for Yellow Hats and Logo patches. Hopefully you know who you are. I will bring them to the meeting also.

73 es CUL de Barry K2JV

High-Performance Crystal Radio Demonstration for Sept 24th Meeting

Andy, WA2DKJ has been experimenting with crystal sets for some time now. Typically, crystal radios are used to listen to stations on the AM broadcast band, 520 KHz to 1700 KHz, and are often built with wire wrapped around a cardboard tube and hooked to a small, plug-type ear phone. Usually one or two stations could be heard and those would often overlap in the earphone. After much reading on the state-of-the-art for this subject it became clear that a well-thought-out and constructed crystal radio is capable of amazing performance in selectivity, sensitivity and volume. The second meeting in September will give members the chance to examine and discuss a radio that is much more developed than the typical rudimentary set.

Crystal Set Contest Scheduled on October 5-8, 2007

The timing of the crystal set Show & Tell meeting mentioned above is no coincidence. One week into October is the first of two contests this fall/winter put on by the Birmingham, Alabama Crystal Radio Group. The idea is to copy as many stations as possible with a radio that does not use externally powered amplifying devices. See their website for general information: <http://crystalradio.us>

and specifically for the contest rules: <http://crystalradio.us/crystalsprint/index.htm>

The contest is a low-key affair designed to encourage experimentation and participation rather than maximum scoring. There are two categories: AM broadcast band reception and Shortwave band reception. The goal is to copy as many stations as possible during the contest period. This event is good motivation to explore the capabilities of passive receivers and learn a bundle about the basics of reception. Oh, and by the way, there were only 14 people who entered the contest last year, so no one needs to worry about being a little fish in a big pond: Try whatever radio you throw together or dig out of your closet. Who knows? Maybe there will be more NPARC members entering the contest than all the other entrants combined.

Tentative October Meeting Topics

Thinking ahead to next month, plans are in the works to have an outside speaker give a presentation about the National Traffic System (NTS) at our first October meeting on the 8th. The NTS is amateur radio's standard system for sending third-party messages from here to there. While there aren't as many members in NPARC as there used to be who are familiar with traffic handling, it would probably be wise for our members to gain more knowledge in case of emergency. No definite plans have been made, but we're working on it.

For the second October meeting on the 22nd we hope to work towards completion of the Software Defined Radio construction projects. Several members have been able to put their hardware on the air, so we'll have plenty of experienced help for any bugs or questions that crop up. As with our meetings this past summer, please attend our construction sessions even if you aren't planning on melting solder. The conversation is welcome and there are Dunkin' Munchkins to eat.

President's Column - continued from page 1

band and I was nicely able to demonstrate the steep and narrow filtering function to separate out several signals that were on top of each other. It was nice to see the little 10 dollar kit work as it did! I can only imagine how the transceiver will function.. especially when the sun spots start getting better. On a side note, if you haven't visited Maine, I highly recommend it. There is a lot of natural beauty in the state, the people are friendly and the Lobster is wonderful.

Stay tuned for upcoming meeting topics for the remainder of the year. Your Activities committee (and executive committee) is hard at work putting together an interesting program for the remainder of the year.

73, de James KB2FCV

Upcoming Club Events

Though firm dates haven't yet been set, our club is planning some new and some repeat events. A Holiday Luncheon sometime around the first week into December is expected and a flyer will be produced in a month or so.

A field trip to Info Age in Wall Township, NJ may happen this fall, too. Info Age is billed as a Science/History Learning Center and Museum and it is located where Marconi did much of his radio work in the early 1900s. See <http://www.infoage.org/> to learn more about that one.

An NPARC club auction is in the works for February 2008. So far the plan is to have it in the New Providence Municipal Building gymnasium as it was last year. It will most likely be on a Friday evening toward the end of the month. An auction committee will be forming shortly. If you'd like to be on the auction committee or just help out, please let any club officer know.

The thought came up at the Executive Committee meeting in September that we might want to have some club shirts made. Nothing firm has been decided, but that we might want to have a collared shirt with some cool logo. We'll discuss the issue at an upcoming meeting and take suggestions.



Climatological Data for New Providence for August 2007

The following information is provided by WB2QOQ, who has been recording daily weather events at his station for the past 25 years.

TEMPERATURE -

Max. temperature for this August, 92 deg. F (August 2),
Average Maximum temperature this August, 80.5 deg. F

Max. for last August: 98 deg. F.

Min. temperature for this August, 55 deg. F (August 22),
Average Minimum temperature this August, 65.2 deg. F

Min. for last August: 54 deg. F.

Minimum diurnal temperature range, 5 deg.(56-61 deg.) 8/21
Maximum diurnal temperature range, 24 deg.(56-80 deg.) 8/11

Average temperature this August, 72.9 deg. F

Average Last August: 74.5 deg. F

PRECIPITATION -

Total precipitation this August – 6.38" rain

Total for last August – 3.23" rain

Maximum one day precip. event this August – August 10, 2.11" rain.

Measurable rain fell on 10 days this August.

Days with Precip. 1.00" + = 2

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Rick, WB2QOQ

2007 Field Day Scores Submitted for NPARC's Governor Livingston Site

Call Used:N2XJ GOTA Station Call:WB2BOI ARRL/RAC Section: NNJ Class:2A

Participants: 28 Club/Group Name: New Providence ARC

Power Source(s): Generator

Power Multiplier: 2X

Bonus Points: Description	Points
100% Emergency power	200
Media Publicity	100
Set-up in Public Place	100
Information Booth	100
NTS message to ARRL SM/SEC	100
W1AW Field Day Message	100
Formal NTS messages handled - No.=8	80
Natural power QSOs completed	100
Site Visit by invited elected official	100
Youth participation	
Youth operators =2	
Youth participants =2	40
GOTA Bonus	160
Submitted via the Web	50
Non-traditional mode: Slow Scan Television	100
Non-traditional mode: Hellschreiber	100
Non-traditional mode: Throb	100
 Total Bonus Points	 1,530



above: Allison, KC2NQZ and Lauryn, WW2OLF
below: Bill, W2ZKE and Rick, WB2QOQ

Score Summary:	CW	Digital	Phone	Total
Total QSOs	321	5	850	
Total Points	642	10	850	1502

Claimed Score = 3,004



Presumably the number shown in QST when all the scores are published will be our Claimed Score + Total Bonus Points = 4534. I'm not sure how that compares with previous years, but should still be in the top third of entrants in the 2A category.

2007 Field Day Score for NPARC's Summit Red Cross Class F Station

We made a total of 703 QSOs of which about 2/3 were CW for a score of 2358 points.

We also had 1210 Bonus Points out of a maximum available 1450.

This years total of 3568 ought to get us into one of the top places in 1F

Thanks to all who participated. 73 es CUL de Barry K2JV

Where' Waldo?

See if you can find which club member is mentioned in this RCA advertisement from the back cover of CQ magazine from July 1966. And, yes, that's his article wrapped up on top of his creation.

**Get this
from your RCA distributor
to build this 2-meter
converter with under 3 dB
noise figure—fixed or mobile**

**using these 3 low-cost
RCA transistors***

Here—on a 4" x 4" x 2" chassis—is the project you've been looking for! Built around three dependable, low-cost (less than \$1.50** each), RCA transistors, this compact, efficient 2-meter converter uses 12.5 VDC at 10 mA—making it ideal for fixed or mobile use. You can get the whole story—parts list, diagrams, chassis template drawing, and construction details plus four suggested power source ideas—in W20K0's article in the winter issue of "RCA Ham Tips."

Ask your RCA Industrial Distributor for a complimentary copy. For a two-year subscription to "RCA Ham Tips"—send \$1.00 check or money order to RCA Electronic Components & Devices, Section 61580 Harrison, N. J. AVAILABLE THROUGH YOUR RCA DISTRIBUTOR



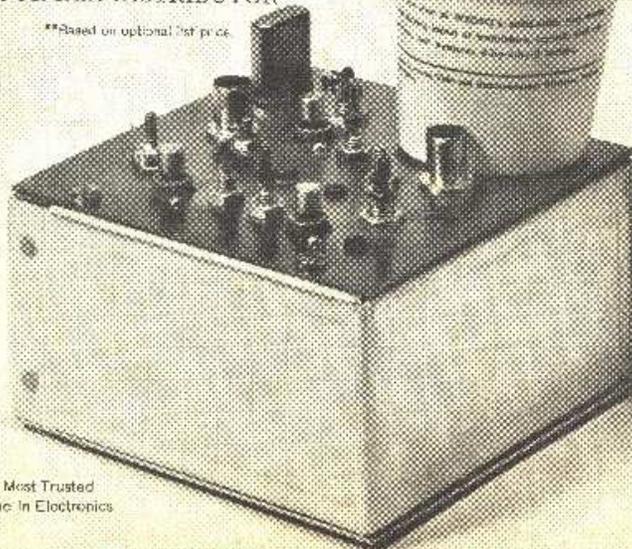
*RCA-40237
Overmode Xtal
Osc multiplier



*RCA-40236
Mixer



*RCA 40235
Amplifier



**Based on optional list price.



The Most Trusted
Name In Electronics

For further information, check number 25 on page 108.

Note 1: dBp refers to decibels relative to page. Since each page has its own "power" of suggestion, the general form would be $\text{dBp} = 10 \log (\text{page Y} / \text{page X})$. For this specific case, $\text{dBp} = 10 \log (4/1)$ which approximately equals 6.02.