

MOUNTAIN SPARK GAPS

NPARC—The Radio Club for the
Watchung Mountain Area



Website: <http://www.nparc.org>
Club Calls: N2XJ, W2FMI

VOLUME 48 NO. 3 March 2013

UPCOMING EVENTS

Regular Meeting
Mon. 4/22 7:30 PM
Salt Brook School Cafeteria

NO MEETING ON MONDAY
4/8. FEDERAL HOLIDAY AND
SCHOOLS ARE CLOSED.

Meeting Schedule

Regular Meeting: 7:30—9:00 PM
2nd Monday of each month at the
Salt Brook School Cafeteria
Springfield Ave. and Maple St.
New Providence

Informal Project Meeting: 7:30—9:00 PM
4th Monday of each month 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.
When Schools are closed,
Meetings are held in the Recreation
Department Meeting Room in Borough Hall

Club Officers for 2013

President: K2MUN David Berkley
908-500-9740
Vice President: KC2WUF David Bean
973-747-6116
Secretary: KC2HLA Hillary Zaenchik
908-244-6202
Treasurer: K2YG Dave Barr
908-277-4283
Activities: W2PTP Paul Wolfmeyer
201-404-6914

On the Air Activities

Club Operating Frequency
145.750 MHz FM Simplex

Sunday Night Phone Net
Murray Hill Repeater (W2LI) at 9:00 PM
Transmit on 147.855 MHz
With PL tone of 141.3 Hz
Receive on 147.255 MHz
Net Control K2AL

Digital Net
First & Third Mondays 9 PM
Details as announced.

Club Internet Address

Website: <http://www.nparc.org>
Webmaster K2MUN David Berkley
Reflector: nparc@mailman.qth.net
Contact K2UI, Jim

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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Editor: K2EZR Frank McAneny
Contributing Editors:
WB2QOO Rick Anderson
WB2EDO Jim Brown

Climatological Data for New Providence for February 2013

The following information is provided by
Rick, WB2QOO, who has been recording
daily weather events at his station for the
past 32 years.

TEMPERATURE -

Maximum temperature this February, 53 deg.
F (February 15)
Last February (2012) maximum was 61 deg.
F.
Average Maximum temperature this February,
40.2 deg. F
Minimum temperature for this February, 11
deg. F (February 10)
Last February (2012) minimum was 17 deg. F.
Average Minimum temperature this February,
23.6 deg. F
Minimum diurnal temperature range, 6 deg.
(41-35 deg.) 2/23
Maximum diurnal temperature range, 26 deg.
(37-11 deg.) 2/10
Average temperature this February, 31.9
deg. F
Average temperature last February, 38.0
deg. F

PRECIPITATION -

Total precipitation this February - 10.4"
snow; 2.9" rain/melted snow.
Total precipitation last February - 1.25"
snow; 1.62" rain/melted snow.
Maximum one day precip. event this Febru-
ary; February 8, 5" snow.
Measurable rain fell on 6 days this Febru-
ary, 8 days last February.
Measurable snow/sleet fell on 5 days this
February.

=====
Rick Anderson
3/5/13

243 Mountain Ave.
New Providence, NJ
(908) 464-8912

rick243@comcast.net

Lat = 40 degrees, 41.7 minutes North

Long = 74 degrees, 23.4 minutes West

Elevation: 380 ft.

CoCoRaHS Network Station #NJ-UN-10



PRESIDENTS COLUMN

By K2MUN

President's Column - David Berkley, K2MUN, March, 2013

In my first two columns I've written brief biographies of two of our new officers. I will continue introducing us in this column but, first, I want to comment on club meetings.

With few exceptions we have two meetings a month on the second and fourth Mondays starting at 7:30 PM. Usually the first meeting has a planned program, announced in advance while the second meeting is called a 'project' meeting and is a chance to informally discuss topics of interest, see what members are working on and work on club projects. For example, in past we have built ARRL kits and a 2 meter/440 Yagi antenna). Both meetings start with general discussion over coffee and both are excellent chances to catch up with fellow club members.

However, lest some of you skip the second meeting because of the lack of 'program', I want to mention our last meeting, on March 25th. With little notice there were two excellent talks at the meeting: one was a brief review, by Brian Lynch, KA2MPG, of his examination of two pieces of antique ham gear. The other was a talk by Paul Wolfmeyer, W2PTP, providing an introduction to the ARRL LoTW log site. We will miss the first meeting in April because both the Salt Brook school and the New Providence Municipal Center, our alternate site, are closed that day. However, on April 22nd, David, KC2WUF, will follow-up Paul's talk with a discussion of how to use LoTW for Awards. So, don't assume the 'Project' meetings lack content. Come and enjoy!

Although many of you know me and have an idea of my life outside of our shared interests in Amateur radio, I thought it wouldn't hurt to provide a little more of my personal background as the second part of this column. If you want more details on my progress from a teenage ham to my greatly renewed recent participation in Ham Radio, I wrote a brief ARRL article that can be easily found on the ARRL website by searching on my call. You'll find the article titled 'Rebirth of a Ham'.

I joined NPARC in 2007 soon after a visit to our Kid's day activities rekindled my interest in Ham Radio. Born in Brooklyn, NY, I was originally licensed in 1953 as KN2MUN, which was soon changed to K2MUN. I was an active ham in my teenage years but once I got to college at Cornell University, studying Electrical Engineering, my interests were diverted into other areas. After 10 years at Cornell, finishing in 1966 with a Ph.D. in Applied Physics, I worked for a couple of years in Sweden, focused on biological research applications of lasers (a new field at the time) working as a Docent at Chalmers in Gothenburg.

Returning to the United States started a long career at AT&T beginning in Applied Physics Research at Bell Labs and ending with retirement from AT&T Labs Research as Speech and Image Processing Services VP in 2000. During this time my wife and I raised triplets, two daughters and a son, leaving no time for ham radio or any other hobbies, for that matter.

My technical career ranged from research on room acoustics and hearing, through the physics of electret microphones. My later work, mostly management, involved a broad range of speech topics including speech synthesis; speech recognition and speech coding as well as similar work in the image/video world. When I retired from AT&T I joined a new startup, Kirusa, Inc., that focused on value-added mobile technologies, as their Chief Scientist, a post I still hold. During my time at Kirusa, work ranged from core engineering (as VP Eng.) through Intellectual Property. Currently my focus, part time, is product management of new smartphone apps.

Next month I will say some words about another Executive Committee member. For now, I again want to encourage each and every one of you to attend our meetings; join the Sunday Night Net and contribute your expertise; express your interests and involve yourself in our club in a way that enhances your, and the rest of our, satisfaction and excitement in amateur radio. Beginning with our next meeting, in addition to the talk on LoTW awards, we will begin Field Day planning in earnest. The more participation, the more fun we will all have!

Bet you didn't know this!

In George Washington's days, there were no cameras. One's image was either sculpted or painted. Some paintings of George Washington showed him standing behind a desk with one arm behind his back while others showed both legs and both arms. Prices charged by painters were not based on how many people were to be painted, but by how many limbs were to be painted. Arms and legs are 'limbs,' therefore painting them would cost the buyer more. Hence the expression, 'Okay, but it'll cost you an arm and a leg.' (Artists know hands and arms are more difficult to paint)

Digital Notes

by David Bean KC2WUF

As many of you know, although I have only been licensed for a relatively short period of time (just over 3 years), I have been fairly active in a number of digital modes with the largest number of my non-contest QSOs (2300+) in JT65 on the HF bands. I have also collected some 3000+ RTTY QSOs, mainly in contests, and have 700+ PSK QSOs (mostly PSK31 and PSK63). I also have a spattering of other digital modes that I have tried. I thought I'd try and share some of my experiences with some of the digital modes with the group. Hopefully some of you will get the urge to try out some of the many digital modes available.

There has been a flurry of new activity on the HF bands due to a new experimental WSJT mode. The new mode is JT9 and is being developed by Nobel Laureate Joe Taylor K1JT. It is available in a separate program WSJT-X available from the regular WSJT download page. The mode was originally written and optimized to be used on the LF and MF bands (1.8 MHz, 472 kHz and 137 kHz), but has found great acceptance on the HF bands, especially 14 MHz. The main reason for this quick acceptance is the bandwidth requirement for JT9-1 is 15.6 Hz while JT65A is about 170 Hz. Even though JT65-HF has a 2 kHz decode window while WSJT-X currently can only decode within a 1 kHz window, this allows for many more signals to co-exist.

Unlike JT65 whose sub-modes JT65A, JT65B and JT65C are progressively wider in bandwidth for higher frequency use on EME paths due to Doppler effects; JT9's submodes JT9-1, JT9-2, JT9-5, JT9-10 and JT9-30 use longer time frames with narrower bandwidths to get better SNR thresholds. The number on the end refers to the number of minutes between the start of each TX period for one party. JT9-1 has similar QSO times to the JT65 modes as they also have 1 minute TX periods. QSOs without problems take 6-7 cycles. The SNR thresholds quoted in Joe's documentation for JT9-1 is -27dB while for JT9-30 it is -42dB. The signal widths decrease from 15.6 Hz for JT9-1 down to 0.4 Hz for JT9-30.

Joe has been developing this with tools that allow for platform independence (Windows and Linux for now). He is using rapid beta releases to allow for testing by the general ham population and is also starting to build a development team to assist him. When I say rapid beta releases, twice I reported a bug and he had a new release the next day both times. The latest features to be incorporated in his software include the option to post spots to PSK Reporter and rig control. The addition of automatic posting of JT65-HF spots was one of its features that allowed for the JT65A mode to become so prevalent in today's digital HF landscape.

Joe is also working with Laurie Cowcher VK3AMA, author of JT-Utilities (JT-Alert, JT-Macros) and the HamSpots website, to allow integration of JT9 into these tools. Speaking of the HamSpots website, Laurie has added band filters to the WSJT Modes page. In addition, he has also added a JT9 Modes page similar to the WSJT Modes page in all regards including the new band filters.

In other news around the JT65 digital world, Joe Large W6CQZ, the author of the highly successful JT65-HF software and the JT65 RB website, has recently announced that he is going to give up developing his software and pass it along to other developers. As he was overhauling the software to use newer tools and allow for platform independence, he suffered some serious medical problems and hasn't been able to do any more development work. He will maintain his RB pages until at least August as he has paid for the machine until at least that time.

WSJT Page - <http://physics.princeton.edu/pulsar/K1JT/wsjt.html>

JT-Utilities Page - <http://ham-apps.com/>

PSK Reporter map - <http://pskreporter.info/pskmap.html>

HamSpots Home Page - <http://hamspots.net/>

JT65-HF Download Page - <http://sourceforge.net/projects/jt65-hf/>

JT65 Reverse Beacon (RB) Site - <http://jt65.w6cqz.org/receptions.php>

SCIENTIFIC TIDBITS

How Safe is Airport Wi-Fi?

This piece submitted by John Zollhofer KC2MTN stated that his middle schooler is always arguing that we should use Wi-Fi instead of my LAN cables at home so he can use his iPod. As he says, "Everyone uses Wi-Fi and they're safe and secure." The following commentary by Eric Butler, who is a security expert, takes exception to that statement.

In 2010 Eric Butler developed a program called Firesheep, which is an extension of Firefox. This program allowed anyone accessing a public network to penetrate the websites of any others on that public website including their email and Facebook pages. Firesheep demonstrated the vulnerability of public networks. Needless to say, Firefox patched the vulnerabilities in their system that was exploited by Butler's program expeditiously.

Subsequently John contacted Mr. Butler to find out how best to protect oneself from prying programs such as Firesheep. He said, "People should really avoid any service that requires them to log in unless that website is 100 percent secure. Anybody nearby can pretty much watch what you are doing unless the website is secure" (its URL will start with https or http). Even then he states information such as bank accounts and passwords may not be completely hidden from prying ever. For extra protection Butler recommends using a virtual private network (VPN) such as Cloak. "A VPN essentially moves the problem to someone else. It encrypts everything I am doing from where I am all the way to wherever the VPN is running, which is somewhere in the cloud, he says."

Airport Wi-Fi sounds kind of like hotel Wi-Fi etc. doesn't it???

Muscles Can Be Produced

The startup company Organovo developed a way to print thin layers of muscle tissue from 3D printers. Scientists arrange the slices of muscle in a petri dish where they grow and interact to form working muscle tissue. Because the printed muscle is so close to human tissue, it could be used to test drugs before clinical trials. It might also be used to repair damaged muscle tissue in both human and animals. This seems to be one more step toward the day that we can see total body transplants?

Jim WB2EDO