MOUNTAIN SPARK GAPS

NPARC—The Radio Club for the Watchung Mountain Area

Website: http://www.nparc.org
Club Calls: N2XJ, W2FMI
Facebook: New Providence Amateur Radio Club (NPARC)

VOLUME 53 NO. 3 March 2020

Regular Meetings

None in April
See President's column
N P Borough Hall
Third Floor Conference Room

Upcoming Events

Memorial Day Parade?
Field Day?

Meeting Schedule

Regular Meeting: 7:30—9:00 PM
2nd & 4th Monday
of each month at the
New Providence Hall
Elkwood Ave. NP
Everyone is Welcome
If a normal meeting night is a holiday, we usually meet the following night.
Call one of the contacts below or check the web site

Club Officers for 2018

President: W2PTP Paul Wolfmeyer 201-406-6914
Vice President:K2GLS Bob Willis 973-543-2454
Secretary: K2AL: Al Hanzl 908-872-5021
Treasurer: K2YG Dave Barr 908-277-4283
Activities: KC2OSR Sam Sealy 973-635-8966

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
28,084 — 28,086
Will be using PSK and RTTY
Net control K2YG

Club Internet Address

Website: http://www.nparc.org
Webmaster KC2WUF David Bean
Reflector: nparc@mailman.qth.net
Contact K2UI, Jim

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WB2QOQ Rick Anderson
W2PTP Paul Wolfmeyer
K2UI Jim Stekas

Climatological Data for New Providence for February 2020

The following information is provided by Rick, WB2QOQ, who has been recording daily weather events at his station for the past 38 years.

TEMPERATURE -
Maximum temperature this February, 59 deg. F (February 24)
Last February(2019) maximum was 60 deg. F.
Average Maximum temperature this February, 44.6 deg. F
Minimum temperature this February, 11 deg. F (February 15)
Last February(2018) minimum was 12 deg. F.
Average Minimum temperature this February, 30.8 deg. F
Minimum diurnal temperature range, 5 deg. (48-43 deg.)2/26
Maximum diurnal temperature range, 27 deg. (59-32 deg.)2/24

Average temperature this February, 37.7 deg. F
Average temperature last February, 34.5 deg. F

PRECIPITATION -
Total precipitation this February - 3.06" rain/snow melt; 0.2" snow.
Total precipitation last February - 3.6" rain/melted snow; 3.7" snow.

Maximum one day precip. event this February -
February 6, 0.56" rain
Measurable rain fell on 12 days this February, 8 days last February.
Measurable snow fell on 1 day this February.

YTD Precipitation - 5.43"

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Rick Anderson
3/14/2020
243 Mountain Ave.
New Providence, NJ
(908)464-8911
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

President's Column March 2020

Wow!! What a month…I hope you are well, following the guidelines and staying calm….
We started the month off with a good program from Gordon, W2TTT on Mesh Networks—besides the powerpoint, he had a live demo and showed us how his is set up. Great work!!

And then the coronavirus shutdown hit us. So we cancelled the March 27th meeting. Since the guidelines have just been extended through April, we will NOT be meeting in person in April. At this point I have not implemented an alternative meeting strategy as we have the Sunday night net for communicating.
Our only really open business item is Field Day location. As I reported previously, our application for use of our traditional location at Governor Livingston High School was turned down because the area was already reserved for another activity. We are interested in alternatives and at least one is being pursued (by Hillary KC2HLA). But with the "virus shutdown", it is difficult to explore alternatives. And we don't know where we will be with the virus situation. So it is possible we will not operate Field Day but rather encourage operation as individuals—but we'll see.

Of course, we were planning to march in the New Providence Memorial Day Parade. This is a big one as it is the 300th anniversary of the founding of New Providence. But we don't know what will happen with that.

And now the good news!! Being pretty well restrained to home base—**it's a good time to operate on the bands.** I've been keeping FT8 "warm" on 30 and 17 principally. And then there is learning/strengthening CW as a possibility—K2YG is setting that up. And there is the digital net on Monday evenings to get your feet wet on. If you need help with any of these things, contact a club member (or contact me if you need a suggestion for who might be able to help). That's why we distributed a club roster with contact info!

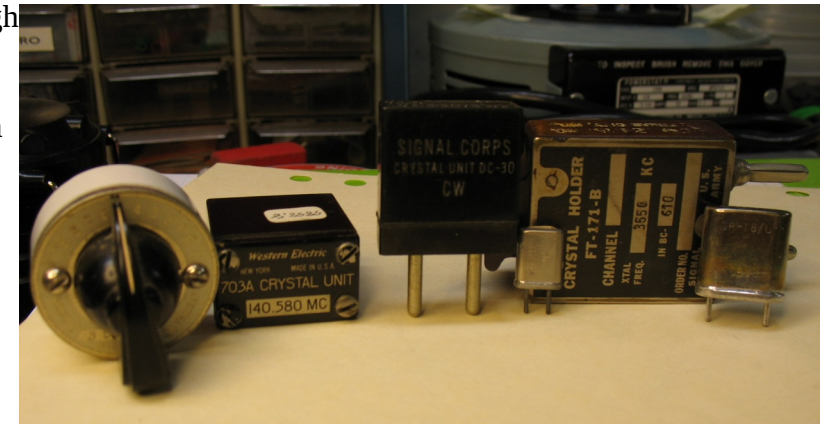
Let me know your thoughts as we navigate through this and stay safe and well…
73
Wolf W2PTP 201-404-6914 or W2PTP@arrl.net

A Virtual Walk Through NPARC History

Jim Stekas - K2UI

The new Corona virus pandemic has us spending the bulk of our time "sheltering in place". As a result I spend a lot more time my basement "lab", which will eventually become the shack again once I run some feedlines and antennas. Meanwhile, I'm doing a lot of cleaning up, which might seem more like messing up to the uninitiated.

One of the recent cleanup targets is my collection of crystals bought at an NPARC auction circa 1990 that came from the estate of Bill King, W2LTJ, NPARC Wouff-Hong 1977. The collection included over 1000 crystals from WW2 through the CB boom in the late 1970's.
Among the more interesting is a Vari Gap (left with knob) that tunes from 3592 to 3598 Kc. (This was from an era before the invention of KHz and varactor diodes.)



A great many of the crystals were characterized by their series and parallel resonant frequencies, series resistance and Q. Many were packaged in envelopes as matched sets for building crystal filters. Also included in the auction lot were a number of crystal oscillator circuit boards.[1]

Not shown are a number of crystals with small tubes soldered to their metal cases. (These were discarded on a cleanup ~10 years ago.) My assessment was that Bill must have had an impressive basement lab of his own to be performing such sophisticated experiments. A Google search revealed that Bill was a research scientist at Exxon and had several patents related to using piezoelectric devices (crystals) to measure properties of fluids. Patent US3260104A[2] gives a good overview of how Bill modified crystals in his work. I guess he took everything home when he retired.

Revisiting Google during the pandemic shows that Bill wrote an article for Ham Radio (April, 1975) about building a variable crystal oscillator (VXO) using a TTL 7404 hex inverter (as an op amp).

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1 Many of the circuit boards were from International Crystals who's full page ad appeared opposite the Collins ad on the inside front cover.

2 https://patents.google.com/patent/US3260104A/en

Tables show Bill's extensive measurements. Bill presented his VXO work at the first NPARC meeting of 1974.[3]

On the shelf next to Bill King's crystal collection is a homebrew VFO I picked up at another NPARC auction, primarily because I loved that Millen dial.[4] The circuit is a slightly modified version of the MOS FET designed by George Hanchett, W2YM, NPARC Wouff-Hong 1979. W2YM's design was published in QST, Dec 1966, and became the defacto standard for homebrew VFOs for many years. The previous ham standard was a Colpitts oscillator with cathode follower buffer using a single 12AU7 tube also designed by W2YM and published in QST, Oct 1960.

In November 1974, W2YM gave an NPARC talk on building a frequency counter using digital logic chips.[5]

W2YM wrote for RCA's Ham Tips, a DIY magazine with projects using RCA tubes and semiconductors. Another NPARC member who wrote for Ham Tips is Bob Mendelson, W2OKO. His all-transistor 2m converter design appears in the winter 1965-66 Ham Tips.

Another piece of gear on the shelf is a Z-match antenna tuner I build based on an NPARC talk by Bob Latter, W2YFM (NPARC Wouff-Hong 1968, 74, 82). Bob was another NPARC QST author. His 80/40 meter "Vacation Special"[6] was a low cost station built around surplus ARC-5 transmitter and receiver. I don't know how well known Bob was outside on NPARC, but he was certainly a legend inside the club. He regularly presented projects he was working on to the club, among them converting surplus military gear to 220 MHz, build a satellite station for Oscar 6 and working Europe, and on and on.

Right below the Z-match is a plastic bin full of baluns and transmission line transformers I built and measured based on W2FMI designs. Jerry Sevik, W2FMI, was an NPARC member and the acknowledged authority on transmission line transformers. He got his Ph.D. in Applied Physics at Harvard (as did Jon Paulik, AE2JP) and I believe his thesis advisor was R. W. P. King, a legendary figure in wire antenna modeling. NPARC now holds his call and you can read a short bio on our web site.[7]

I have focused above on NPARC members with a direct connection to things in my shack. Surfing the web revealed many additionial interesting accomplishments of NPARC club members. I'll leave them for you to discover and report on the Reflector.

References

1. http://www.nparc.info/docs/SUNNET.TXT contains the minutes of many NPARC Sunday night nets (RTTY?) from 1991 through 2007.

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3 http://nparc.info/newsletters/Jan74MSG.pdf
4 All my ambitious projects were relegated indefinitely to the back burner once Barbara and Nick came on the scene.
5 http://nparc.info/newsletters/Nov74MSG.pdf
6 QST, May 1967
7 http://nparc.info/w2fmi.html