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)

August 2025

Volume 58 No. 8

Regular Meetings

Second & Fourth Mondays

at New Providence Municipal Bldg (3rd Floor)

Aug 11 - Topic TBD

Aug 25 - No Meeting

Upcoming Events

Digital Net Mondays at 9 PM – 28.085 MHz (+/-)
CW Training Net, 9PM Thurs – 28.050 or 7.030 MHz

Check announcements in the Reflector for details.

Meeting Schedule

Regular Meeting: 7:30—9:00 PM
2nd & 4th Monday
of each month
Watch for Emails

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 2025

President: K2AL, Al Hanzl
908-872-5021
Vice President: W2EMC Brian DeLuca
973-615-1262
Secretary: K2AL, Al Hanzl
908-872-5021
Treasurer: K2YG, Dave Barr
908-277-4283
Activities: N2TO, Kevin Glynn
917-885-4424

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
Mondays 9 PM
28.084 — 28.086 MHz
Will be using PSK and RTTY
Net control KC2WUF

CW Training Net
Thursdays 9 PM
28.050 or 7.050 MHz
Net control K2YG

Club Internet Address

Website: www.nparc.org
Webmaster KC2WUF David Bean
Reflector: nparc@mailman.qth.net
Contact K2AL, Al

MOUNTAIN SPARK GAPS

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Editor: K2UI Jim Stekas
Contributing Editors:
WB2QOQ Rick Anderson

Climatological Data for New Providence - June 2025

The following information is provided by Rick, WB2QOQ, who has been recording daily weather events at his station for the past 44 years.

TEMPERATURE -

Maximum temp. this June, 98 F (June 24)
Last June(2024) maximum was 96 F.
Average Maximum temp this June, 80.6 F

Minimum temp this June, 48 F (June 1,2)
Last June(2024) minimum was 57 F.
Average Minimum temp this June, 63.7 F

Minimum diurnal temp range, 3 F (60 – 57 F)6/15
Maximum diurnal temp range, 29 F(86 - 57 F)6/4

Average temp this June, 72.2 F
Average temp last June, 74.6 F

PRECIPITATION -

Total precipitation this June – 3.37” rain
Total precipitation last June - 3.4” rain

Maximum one day precip. Event - June 10, 1.05” rain
Measurable rain fell on 15 days this June
10 days last June.

YTD Precipitation – 23.59” rain

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Rick Anderson 7/16/2025
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

August President's Report

It has been a busy summer for NPARC and hopefully everyone is taking a deep breath and taking time to relax before the Fall arrives.

Field Day was a success with many members stepping up as usual. The weather, although hot, cooperated. We have a claimed score of 4,898 points with 1,239 QSOs and 1,450 Bonus points. Our score is the best since 2011 and 5th best since 1999.

Scaling down the VHF station by replacing the tower with a far less labor intensive 40 foot mast worked out well. We used our new Yaesu FT-710 radios and they worked out well, but we realize that we still need to get more familiar with their operation as the learning curve is steep on these new radios.

Several members attended the Sussex Hamfest in July and the club sold some items. It was well attended with lots of good stuff for sale. Several members took advantage of the indoor tables that the Club reserved to sell their stuff.

NJ5R, K2UI, K2DAM and KY2MMM

K2UI, KE2FTA & K2DAM

Please note that the August 11 meeting will be at the NP Municipal Building 3rd floor conference room. There will be no second meeting in August. We will resume meetings in September. We are working on reserving the Salt Brook School cafeteria once again for our meetings over the next school year.

We hope to have a Fox Hunt or two this Fall. James, KB2FCV, has started planning.

I would also like to welcome Pam-KE2FTA, Mike-KE2EZM, Paul-K2PER and Rich-KE2FKE to NPARC! Always nice to have new members.

So enjoy the rest of the summer and see you at the August 11 meeting.

73
Al K2AL

Popular Contests in August 2025

Dave Barr – K2YG

Contest Name*	Dates (EDT)	Modes	Exchange	Notes & Websites**
N American QSO Party CW	8/2 Sat 2 pm to 8/3 Sun 2 am	CW	NA: Name/State-DC-Prov-Country Non NA: Name	QRP/LP 160-10 m www.ncjweb.com
WAE DX CW	8/8 Fri 8 pm to 8/10 Sun 8pm	CW	RST/Serial Number Optional QTCs. See rules.	LP/HP 80-10 m www.darc.de
Maryland-DC QSO Party	8/9 Sat 10 am to midnight	CW Phone	MDC: county/city Non MDC: State (no rst)	Qrp/LP/HP 160-10 m (No WARC Bands) www.w3vpr.org
SARTG WW RTTY Contest	8/15 Fri 7 pm-Sat 4am; 8/16 Sat 12n to 8 pm; Sun 4am to 12 n	RTTY	RST + Serial #	LP/HP 80-10 M; ***8 hours on-8 hours off. www.sartg.com
N American QSO Party SSB	8/16 Sat 2 pm to 8/17 Sun 2 am	SSB	NA: Name/State-DC-Province-Country Non NA: Name	qrp/LP 160-10 m www.ncjweb.com
Hawaii QSO Party	8/23 Sat 12 am to 8/25 Mon 12 am (48 hours)	Phone, CW, Digital	HI: rs(t) + district Non HI: rs(t)+state/prov	qrp/LP/HP 160-10m www.hawaiiqsoparty.org
Ohio QSO Party	8/23 Sat Noon to Midnight	CW SSB	OH: rs(t) + county Non OH: rs(t) + state/prov	qrp/LP/HP 160-10 meters www.ohqp.org
World Wide Digi Dx Contest	8/23 Sat 8 am to 8/24 Sun 8 am	FT8, FT4	4 Character Grid Square	qrp/LP/HP 160-10 m ww-digi.com
Colorado QSO Party	8-30 Sat 9am-12m	CW Phone Digital	CO: name + county Non CO: name+state/prov	qrp/LP/HP All bands except WARC ppraa.org
Kansas QSO Party	8/30 Sat 10a–10p 8/31 Sun 10a-4p	CW SSB Digi/RTTY	KA: rs(t) + county Non KA: rs(t)+state/prov/dx	qrp/LP/HP 80-6 meters ksqsoparty.org

Check www.contestcalendar.com or contest specific websites
for more information on these and many other radio contests.

* State QSO Parties allow out-of-state stations to contact only in-state stations for that specific contest. In-state stations may contact all contest stations. See websites for county abbreviation lists.

** No WARC bands in any contest.

*** SARTG RTTY Contest (Scandinavian Amateur Radio Teletype Group) uses the “eight hours on, then eight hours off, then eight on, eight off and a third eight hours on” schedule. For us in EDT, the contest starts at 8pm Friday, stops 4am Saturday, restarts at noon on Saturday running until 8pm, then pauses again and resumes once more at 4am Sunday morning, finishing at noon on Sunday.

NPARC Field Day Score History

Al Hanzl – K2AL

I wanted to see how our claimed 2025 Field Day score compared to past scores. I found score summaries going back to 2006 on the NPARC website and found score summaries going back to 1999 in QST score archives. I filled in some missing info on our website with the help of QST scores as some of the website summaries were preliminary. (QST made an error and overstated our score for 2006 by doubling our GOTA QSO total.)

We canceled FD in 2020 and 2021 for Covid and 2023 due to threat of thunderstorms.
I will try to keep looking for earlier scores and if anyone has any information, please send it to me and we can add to the archives.

Our FD 2025 score is the 5th best since 1999 and our QSO ranked 7th best. Keep in mind that two years' scores were higher because we were 2A Battery/QRP in 2001 and 2002 with a 5 times multiplier rather than our normal 2 times multiplier.

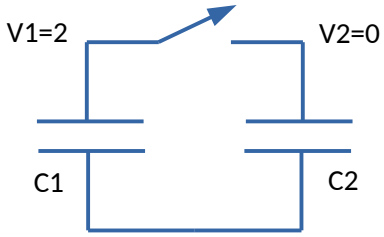
NPARC Field Day Scores – Sorted by QSO Totals

	Call	Year	Score	Class	Pwr	Operators/ Participants	Total QSO's
1	N2XJ	2011	6,120	2A	LP	37	2062
2	N2XJ	2006	5,726	2A	LP	50	1588
3	N2XJ	2012	4,604	2A	LP	35	1535
4	N2XJ	2013	4,496	2A	LP	51	1371
5	N2XJ	2014	4,114	2A	LP	36	1287
6	N2XJ	2008	4,678	2A	LP	33	1258
7	**N2XJ**	**2025**	**4,898**	**2A**	**LP**	**48**	**1239**
8	N2XJ	1999	4,726	2A	LP	27	1236
9	N2XJ	2017	4,272	2A	LP	51	1220
10	N2XJ	2009	4,338	2A	LP	27	1208
11	N2XJ	2007	4,434	2A	LP	28	1176
12	N2XJ	2018	4,286	2A	LP	46	1072
13	N2XJ	2005	4,046	2A	LP	20	999
14	N2XJ	2002	*7,520*	*2A Battery*	*QRP*	43	957
15	N2XJ	2019	4,262	2A	LP	46	931
16	N2XJ	2022	4,188	2A	LP	47	921
17	K2AL	2001	*7,235*	*2A Battery*	*QRP*	37	908
18	N2XJ	2024	3,676	2A	LP	41	785
19	N2XJ	2000	2,828	2A	LP	23	754
20	N2XJ	2016	2,524	2A	LP	40	737
21	N2XJ	2004	3,044	2A	LP	5	728
22	N2XJ	2010	2,264	2A	LP	25	528
23	N2XJ	2015	1,814	2A	LP	40	462
24	N2XJ	2003	*3,915*	*2A Battery*	*QRP*	30	397

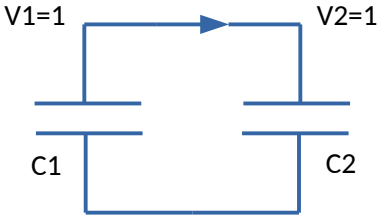
Where Did the Energy Go? - Solution

Jim Stekas – K2UI

In the July issue we considered the simple lossless circuit below with two identical capacitors, $C1=C2=1$, in series with a switch. At time $t<0$, capacitor $C1$ is charged to 2 volts, $C2$ is fully discharged, and the switch is open.



$T<0$



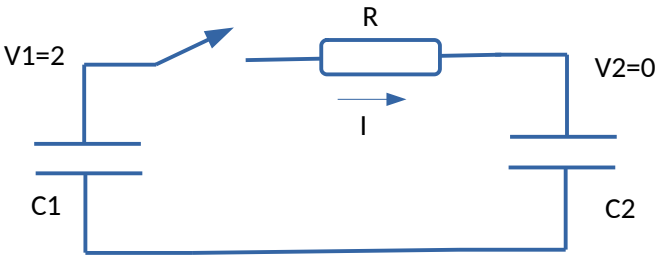
Equilibrium, $T\approx\infty$

At time $t=0$ the switch is closed and charge flows from $C1$ to $C2$. A long time later, both capacitors reach equilibrium. They will have equal charges and voltages of 1 volt. (The total charge is the same but the capacitance has doubled, halving the voltage.)

The energy at the start is $E_{t=0}=\frac{1}{2}C_1V_1^2=2$. When charge is fully balanced between C1 and C2, the total energy remaining is $E_{t=\infty}=\frac{1}{2}C_1V_1^2+\frac{1}{2}C_2V_2^2=1$, which is only 50% of the energy we started with. What happened to the other 50%?

Solution

Even if the circuit is constructed with direct wire connections, the wires and switches still have a finite resistance, however small. We account for this by adding a very small resistor, R, to the circuit.



The total energy dissipated in the resistor is given by $E_R=\int_0^\infty \frac{1}{R}\cdot V^2\,dt$ where $V=(V_2-V_1)$.

Dan Kahn, K1DK, was the first (and only) member to submit a solution. He provided a clever argument to show that whatever the resistance, R, the total energy dissipated is constant. Dan's argument goes something like this:

> When the switch is thrown $V=2$ after which it slowly drops to zero. The bulk of the dissipated energy occurs in time $\Delta t=RC$, the circuit time constant. Dan approximates the integral $E_R=\int_0^\infty \frac{V^2}{R}dt$ by $E_R=R^{-1}\cdot avg(V^2)\Delta t$ which is proportional to CV^2 ..

Dan also pointed out that the simpler problem of discharging a single capacitor results in the loss of all the energy stored in the capacitor which gets turned to heat in the wire. The addition of the second capacitor is a nice way to obfuscate a straightforward problem.

To finish up, we need to show that $E_R = E_{t=\infty} - E_{t=0} = \int_0^\infty \frac{V^2}{R} dt = 1$, the "lost" energy. The voltage V decays exponentially from an initial value of 2 at $t=0$ to 0 at $t=\infty$. Therefore, $V = V_0 e^{-t/\tau}$, where $\tau = \frac{RC}{2}$ is the circuit a time constant[1] and $V_0 = 2$.

Evaluating $E_R = \int_0^\infty \frac{V^2}{R} dt$ gives $E_R = \frac{V_0^2}{R} \int_0^\infty e^{-2t/\tau} dt = \frac{V_0^2}{R} \frac{\tau}{2} = \frac{V_0^2 C}{4} = 1$. qed

1 - The circuit has two capacitors of capacitance C in series with an effective capacitance of C/2.