

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)**

March 2023

Regular Meetings

Second & Fourth Mondays

4/10 & 4/24

Digital Net Mondays at 9:00 PM

PSK on 80 or 10 meters

CW training Net, Thursdays at 9:00 PM

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 2023

President: K2UI, Jim Stekas
201-406-6914
Vice President: W2EMC Brian DeLuca
973-543-2454
Secretary: K2AL: Al Hanzl
908-872-5021
Treasurer: K2YG Dave Barr
908-277-4283
Activities: KC2MTN, John Zellhofer
973-462-2014

—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
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 KC2WUF, David

MOUNTAIN SPARK GAPS

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Contributing Editors:
WB2QOQ Rick Anderson

Climatological Data for New Providence for February 2023

The following information is provided by Rick, WB2QOQ, who has been recording daily weather events at his station for the past 43 years.

TEMPERATURE -

Maximum temperature this February, 66 deg. F
(February 16)

Last February (2022) maximum was 65 deg. F.

Average Maximum temperature this February, 45.6 deg. F

Minimum temperature this February, +3 deg. F
(February 4)

Last February (2022) minimum was 10 deg. F.

Average Minimum temperature this February, 29.0 deg. F

Minimum diurnal temperature range, 7 deg. (43

-36 deg.) 2/23; (37-30) 2/28

Maximum diurnal temperature range, 27 deg.
(58-31 deg.) 2/17 2222

Average temperature this February, 37.3 deg. F

Average temperature last February, 33.0 deg. F

PRECIPITATION -

Total precipitation this February- 1.50"
rain/snow melt; 1.80" snow

Total precipitation last February- 3.45"
rain/snow melt; 2.3" snow

Maximum one day precip. event this February-

February 21, 0.26" rain. Feb. 27, 1.0"
snow.

Measurable rain fell on 7 days this February, 6 days last February.

YTD Precipitation - 6.55"

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Rick Anderson

3/18/2023

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

Every week NPARC runs three nets:

- Voice - Sun, 9pm, 147.255 MHz
- Digital - Mon, 9pm, 28085 MHz
- CW - Thurs, 9pm, 28050 MHz

Participation in the Sunday voice net is generally quite good because the W2LI repeater provides good RF coverage and EchoLink extends that even more. Our 10m nets have less participation, partly due to

limitations in ground wave propagation. To determine the best HF bands for the digital and CW nets we will be conducting some experiments that we hope club members will support.

Our idea is to run the tests at 8:30pm before the CW net. Net control (usually K2AL) will call CQ in low speed CW. Stations will respond with "K2AL de K2UI K2UI K2UI k" and net control will acknowledge with "K2UI QSL – QRZ de K2AL", at which point other stations will check in. Since the test frequency and net control will be available on the reflector and NPARC.org, you don't even need to be able to copy CW, just send it at whatever speed you can. (My average code speed is 30 WPM, 15 on receive and 45 on transmit.)

While stations are checking in, monitoring stations should record RST signal reports for the stations heard and email them to K2UI@arrl.net. No over-the-air reports are required. Even if you don't have an 80m antenna, you can still participate in 80m as a monitor collecting signal reports. In the end, we should be able to determine RF link quality between participating NPARC members.

CW might not be everyone's first choice for the test, but let's start that way. PSK31 would be ideal since FLDIG automatically extracts a signal-to-noise measurement, but not everyone is QRV on PSK31. As we gain experience we can try different bands, modes, and methods.

I hope we get good participation so we can turn our propagation tests into a club QST article.

73,

Jim - K2UI

W2IOC NAMED "MONTVILLE CITIZEN OF THE YEAR"

Al Hanzl - K2AL

NPARC member Ken Hanzl, W2IOC, was honored as "Citizen of the Year" by the Montville Chamber of Commerce on March 23rd at the Lake Valhalla Club in Montville. Many family members and fellow VFW members joined Ken in the celebration.

Ken, a 50 year resident of Montville and a Vietnam War veteran, was recognized for his many years of volunteer service to youth sports and athletics programs in town and for his efforts as Montville Memorial VFW Post 5481 Commander. Under Ken's leadership, the Montville VFW Post has risen to one of the top in the country in regard to membership, planning programs such as 9-11 Services, Flag Day and Memorial Day tributes and awarding VFW Eagle Scout Awards and local student good citizenship essay awards.

Congratulations to Ken for this well deserved award!



ANYONE OUT THERE? **Al Hanzl - K2AL**

Many, if not most, NPARC members have the capability of getting on 2-meter FM.

Many members may not be aware that NPARC has a "Club Frequency".

No one "owns" a frequency, but 145.75 MHz FM simplex (no repeater) has been used for many years by club members to communicate with each other or when troubleshooting a problem in the shack.

Several "old timers" in the Club (me included!) will remember two retirees from Bell Labs K2AGI (SK) and KB2IKC (SK), chatting about various technical topics on ".75" all the time. And all one had to do was to send out your call and either John or Bob would answer and be ready to chat or help.

K2AGI was also net control for the "NPARC Sunday Night RTTY Net" at 8pm Sundays on this frequency.

Unfortunately, there is not much activity heard on 145.75 these days.

I recommend that along with your favorite repeater frequencies, you program 145.75 MHz into your HTs and mobile FM rigs' memory channels and monitor it when in the shack or when walking the dog. Throw out your call and say you "are monitoring". Hopefully it will lead to a nice QSO.

K2AL



Putting Your Wall Warts to Work Jim Stekas - K2UI

While a college student I made regular visits to Radio Shack looking for deeply discounted “as-is” treasures. Eventually I assembled a small cache of test equipment: frequency counter, VOM, crystal calibrator, field strength meter, etc. Total investment: about \$100.

While my capital investment was small, my bargain gear went through 9V “transistor batteries” faster than beer at a frat party. My solution was to acquire a 9V “battery eliminator” and create some adapters so it could power anything using a 9V battery. It paid for itself many times over and is still in regular use in the shack.

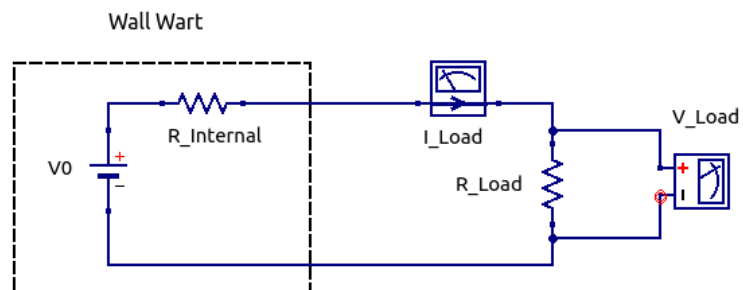
Eventually, just about all low power electronics came with a “wall wart” to power it from 120 VAC. The moniker “battery eliminator” faded away because hardly any of these devices could be powered from batteries. As for everything produced in vast quantities, wall warts became a nuisance and ended up being sold surplus at giveaway prices, or in a landfill.

Being someone who over-appreciated the value of these devices, I could not pass them by. My collection of wall warts grew until I ran out of space. The wall wart drawer runneth over.

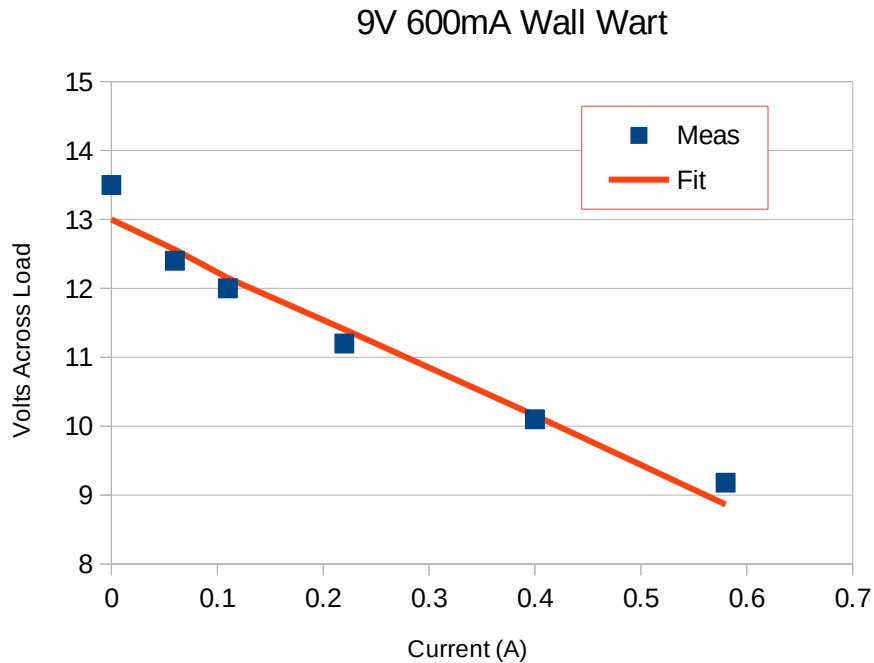


Whenever one of my homebrew projects needs power, I can almost always dip into my cache of wall warts and find one that will do the job. Caveat homebrewer. Picking the right wall wart requires more than just matching the voltage and current rating on the label to what your project requires. If your project requires 10mA at 9V and you use a 9V wall wart rated at 1A to it you can bet it will deliver more than 9V to your project. Often very much more than 9V.

To determine if a wall wart is suitable for your project it needs to be tested under load. The objective being to understand how the voltage delivered by the wall wart changes with the current demand. The wall wart should behave approximately like an ideal battery, V_0 , with a series internal resistance, $R_{Internal}$. Using the test circuit at right we can vary the load on the wall wart, measure the current and voltage delivered, and generate a V vs I curve.

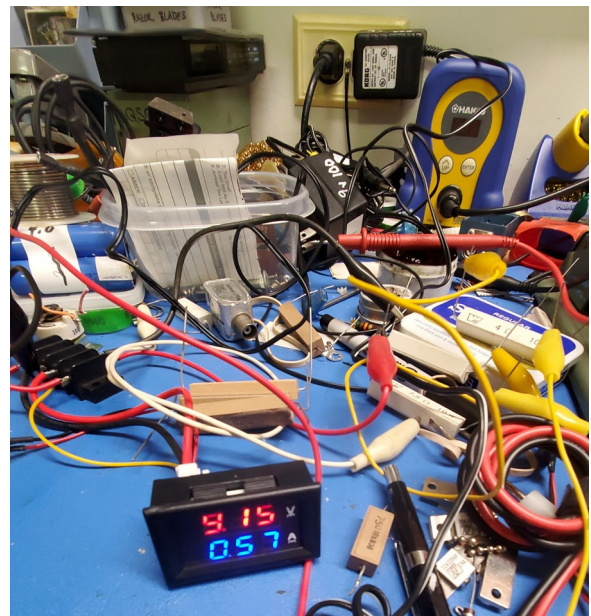


One of the wall warts in my cache is from a Korg audio gadget, and is labeled as 9V and 600mA (see picture below.) Using the test circuit described above, the wall wart was loaded with various R_{Load} values, drawing currents ranging from 0 to 600mA. The V vs I measurements are shown in the plot below.



The orange line is for a model wall wart with an internal voltage of $V_0=13V$ and $R_{Internal}=7\Omega$, and is an eyeballed best fit to the measured data. The key point here is that this 9V wall wart actually delivers over 12V to loads that draw less than 100mA. The extra 3V may be enough to prevent your circuit from operating properly. If you are very unlucky, it may end up frying an IC or two.

The physical realization of the load test circuit (right) includes a digital Voltage+Current meter¹ and a collection of various 10W resistors combined in series/parallel using jumper cables with alligator clips. (Note the Korg wall wart plugged in to wall.) The display shows the values of the rightmost measurement in the plot above.



¹ <https://www.amazon.com/gp/product/B08HQM1RMF>