



HARMONICS

1916 South Jersey Radio Association 2019



President's Message

Ken- K2WB



The summer is going to be over well before we know it. Field Day 2019 is over and a good memory. Some of us are already looking forward to Field Day 2020.

As the summer draws to a close, you should look carefully at your antenna farm and it may be time to start planning on any improvements or repairs that could be done while the weather is still pretty good.

While working on your projects always think of safety and get assistance for big jobs. Use the right tool for the right job and never climb a tower without the spotters, climbing gear and ground help.

Always be extra careful while working

(Continued on page 6)

SJRA 's New Publicity Committee

We are pleased to announce that the SJRA has a new publicity committee. John Jones, KD2RKA, Holden Correia-Fisher, KD2JPV and Connie Correia are off to a fantastic start establishing the Committee. They are already developing great ideas to promote the club via community outreach and traditional and social media including a direct mail campaign to attract new members. We would like to thank them for taking on this important role.



SOUTH JERSEY RADIO ASSOCIATION

HARMONICS is published monthly and is the official news letter of the South Jersey Radio Association. The SJRA was established on June 16, 1916 and has been meeting continuously since it's inception. The club has been affiliated with the American Radio Relay League since 1920.

The SJRA meets each month on the fourth Wednesday, January through September; and usually the third Wednesday, October, November and December; in one of the Meeting Rooms of the Gibson House at 525 East Main Street, Marlton, NJ 08053. Visitors are always welcome at our general meetings. **"Our Meetings are Smoke Free"**

SJRA operates the K2AA Repeater (145.290 - PL 91.5) located in Medford, NJ and the K2UK Repeaters (146.865 and 442.350 - PL 131.8) located in Pine Hill, NJ. The repeaters are open for use without restriction to all licensed amateur operators.

There are currently over 100 SJRA members active in most all aspects of amateur radio. Membership is by application and is subject to the approval of the Board of Directors. Club dues are currently \$30/yr. for memberships, \$22.50/yr. for retired-person membership (62 plus 1 yr. membership), and \$15/yr. for additional family members and student membership. Membership information is available on the SJRA website: www.sjra.org or from Alan Handley, K3WWT, 610-532-5407 Email: sjra@sjra.org SJRA's web page: www.sjra.org

SJRA VE Team: ve@sjra.org is the SJRA/ARRL VUCC card checker

Joe Fisher, KC2TN, is the SJRA/ARRL WAS card checker

Officers

President: Ken Botterbrodt, K2WB
Vice Pres.: John Doran, W2FDJ
Treasurer: Roy Herman, WB2EOD
Rec. Sec: Carl Hyde, W2CSH
Cor. Sec: Dennis Cioffi, AC2FO

Directors:

Art Arnold, N2CPR
 Tony Canuso, N2ATB
 Holden Correia-Fisher, KD2JPW
 Matt Grohgans, N2IDW
 Rick Lawn, W2JAZ
 Frank Longbottom, AA2AW
 Al Witner, N3AVT

Committees:

Historian: Mark Walters, KD2JPW
Membership: Art Arnold, N2CPR and Alan Handley, K3WWT
Field Day: Ken Botterbrodt, K2WB
Contests: John Doran, W2FDJ
Repeater: Robert Sunbury, K2UQ
Programs: Carl Hyde, W2CSH & Rick Lawn, W2JAZ
H&W: Roy Herman, WB2EOD; and Dara Herman, KC2THQ
Awards: Jim Higgins, KC2SZ
Hospitality: Jean Priestley, KA2YKN
Nets: Matt Grohgans, N2IDW
Publicity: John Jones, KD2RKA
Picnic: **Vacant (Please Volunteer)**
Ways & Means: Roy Herman, WB2EOD
Property: Frank Longbottom, AA2AW
Web Site: Ira Weinstein, W2IRA

Harmonics Staff:

Publisher/Editor: Al Ziegler, KD2ST
Alternate Editors: Ted Groke, N8MP
Circulation: Jim Vecchiola, KR2T

 ★ Harmonics is now available for SJRA members on the WEB in pdf ★
 ★ format at: <http://www.sjra.org> ★
 ★ South Jersey ARRL Section News is available on the WEB at: ★
 ★ <http://www.arrl.org/Groups/view/southern-new-jersey> ★
 ★ *****

LOCAL WEEKLY NETS

| | | |
|--|-------------------------|-----------------------|
| Mondays FM Net; Swap Net every 4th Monday | K2AA Repeater, PL: 91.5 | 145.290 @ 8PM |
| Fusion on 2 ND & 4 TH Thurs. | K2AA Repeater, DN mode | 145.290 @ 8PM, Fusion |
| 6M SSB on 1 st Thurs. | | 50.150 MHz USB @ 8PM |
| 2M SSB on 3 RD Thurs. | | 144.260 MHz USB @ 8PM |

Harmonics Deadline

Articles submitted for the next Harmonics will be accepted until Monday, September 9, 2019. Email: harmonics@sjra.org

SWAP SHOP - For Sale/Wanted ads are free of charge and are accepted for Amateur Radio related items only. While ads are not restricted to SJRA members, there is only limited space available and members have priority for listings. No items will be accepted for inclusion in the Swap Shop from commercial vendors or traders. All ads must be submitted at least three weeks prior to the scheduled SJRA general meeting date.

GENERAL ADVERTISING - Limited commercial advertising is accepted on a space available basis. Annual advertising rates range from \$25/yr (Min 1/8 page) to \$200/yr (Full Page). Information is available from Ken Botterbrodt, K2WB.

Meeting Minutes

Minutes of August 7, 2019 BOD Meeting

Time: 1930

Facilitator: Ken, K2WB

In Attendance:

Carl W2CSH, Frank AA2AW, Holden KD2JPV, Roy WB2EOD, Art N2CPR, Al KD2ST, John KD2RKA, Ken K2WB

Approval of Minutes:

The minutes of the July meeting were approved.

Board:

Ken K2WB called the meeting to order.

Treasurers Report: Roy, WB2EOD

Roy presented the treasurer's report. There was a motion to accept which was seconded and the motion carried.

Membership: Art, N2CPR

Art reported that Allen, K3WWT gave notice that he was resigning from the membership committee. His services were appreciated and noted by the Board. An application from Albert Bassetti, KD2FGG (Technician) was presented for approval. Motion to approve by Art N3CPR seconded by Frank AA2AW and approved by the board's unanimous vote.

Harmonics: Al, KD2ST

Al reported that the August issue will have pictures of the K2UK transfer of equipment.

Al and the board discussed the rate for

ads placed in Harmonics. A previous ad schedule was presented and the board decided to keep the same ad rates in place for the time being.

Repeater: Ken, K2WB

The Repeater Committee was not present at the meeting. Ken brought up the requirement that engineering drawings must be prepared for the placement of the K2UK UHF antenna before any antenna installation can take place. Ken will direct the Repeater Committee to not proceed with any antenna installation until the township engineer has approved the installation.

There was a question from the treasurer (Roy WB2EOD) regarding the escrow fund that was placed with Pine Hill Township for the repeater installation. Ken K2WB explained that the escrow account will remain in place to cover power and other expenses at the repeater site and may need to be added to in the future.

History - No Report

Club Merch - No Report

Contests: John, W2FDJ

In John's absence Ken reminded all that the September VHF contest is around the corner.

Health and Welfare: Roy, WB2EOD

August birthday cards have been sent out. No new reports of member status.

(Continued on page 4)

(Meeting Minutes from page 3)

Nets: Matt, N2IDW - No Report

It was suggested by Ken that a new net be established on the K2UK repeater to replace or supplement one of the Thursday night nets. The board would like to see an effort to increase awareness and utilization of the K2UK repeater among area hams.

Awards : No Report

Programs: Rick, W2JAZ:

No Report, Rob Sherwood will be presenting at the August meeting.

K2AA Web Site:

Emails were sent to Ira, W2IRA asking if he desires to stay on as the Web Team chairman. Alternative plans are ready if he declines to stay on.

Field Day: Ken, K2WB:

Everything has been submitted. We await the December report.

VE Team: Al, N3AVT:

No Report

Publicity: John, KD2RKA:

John presented the committee's path forward on increasing membership using local news press releases, social media, direct mailings and community outreach. The Board approved of the effort and the new membership information packets and applications. John will also utilize a survey to be given out at the general meeting to visitors

and prospective members. John's materials and handouts will be reviewed and approved by the board.

Property: Frank, AA2AW:

Frank reported that the club property inventory will start with the contents of the club trailer followed by the repeater sites. A work party will be solicited for the trailer effort some time in the fall. Property belonging to the club and property belonging to members but stored in club facilities will be marked and recorded in the record of assets.

Old Business:

The donation to the Storm Robotics group was discussed at the June general meeting. The board solicited volunteers to form a committee. No volunteers were forthcoming so the discussion is tabled for the near future.

New Business:

There continues to be gathering momentum in organizing a trip to Dayton in 2020. The logistics were discussed and the opening of the trip to those outside SJRA was approved. It was put forth that the trip be open to all hams and a 50% non-refundable deposit be required to secure a spot. Bus transport would be the most effective way and a block of hotel rooms will be reserved. John is going to research hotel availability and bus costs. The trip and plans so far will be discussed at the August general meeting.

The meeting was adjourned at 21:10

Submitted: By Carl, W2CSH

Items for Sale

Cleaning the shack and need to sell a pair of amplifiers. They were both working, but the last time I used them was at least 10 years ago. If the buyer finds either is not working, I will gladly refund the purchase price.

MIRAGE D 100 TVM. 420-450 MHz, 100 watts out. Meant for high duty cycle ATV work. \$150

MIRAGE B 2516 G. 144-148 MHz. 25 watts in, 160 watts out. \$150

Neither of these are actively made by Mirage anymore, so their web page does not list the details. Do not confuse these with the newer versions with slightly different model numbers. You can find reviews on-line of these exact amps.

Prices are negotiable, especially if someone wants both. Non-smoking environment, just a bit dusty, and I can bring them to an SJRA meeting. Email: **bob at Applegate dot org** if interested.

I am considering selling my **Kenwood TS-990**. Interested parties can contact Roy at **wb2eod at arrl dot net**

SPE Expert Linear 2K-FA Amplifier for sale locally- I prefer not to ship. This is SPE's flagship amp and is in perfect condition. Specs can be found at: <http://expertlinears.com/2k-fa.html>. Reduced price: \$4,500.

Please contact Joe by email: **kc2tn at comcast dot net**

Antennas for Sale:

Cushcraft A3W with 30m driven element. For WARC bands 30/17/12m: \$150.00

Hy-Gain TH6DXX – 20/15/10m: \$150.00

Hy-Gain 402BA – 2 Element 40m Beam: \$200.00

They will be available before the end of June. They will be disassembled and marked for easy reassembly and transportation. Contact by email: **ken at k2wb dot com**

Cushcraft Model A-3WS 3 element WARC bands beam antenna still in the box never opened. Will accept any reasonable offer for it or willing to trade or deal. If interested please contact **Jack Froehlich, W2AF** at **856-809-2965** or **609-352-9696**.

The antenna can be picked up in Atco, NJ. Thank you for your time.

**List Your "For Sale" Ham
Stuff in the SJRA
Harmonics**

Email: **harmonics at sjra dot org** with your listing.



SJRA Monthly Breakfast

Join us on the second Saturday every month at 9:15 am at the **Bob Evans Restaurant**; 601 Fellowship Rd, Mount Laurel, NJ 08054 for an informal get together.

New Members

The SJRA would like to welcome the following new member to our Club:

- Albert Bassetti, KD2FGG

VE Report for July 17, 2019

The SJRA would like to congratulate the following on their recent achievements.

Andrew S. Koenig, Jr, KD2SJX
188 Nelson Drive
Williamstown, NJ 08094
Earned his Tech

Total New or Upgrades to Date

| Tech | General | Extra | Total |
|------|---------|-------|-------|
| 164 | 76 | 38 | 278 |

The 300th person to obtain an initial license or upgrade with the SJRA VE team wins free SJRA Membership for one year!

(President's Message from page 1)

on older towers. Putting them up is safer because everything is new. After 20-30 years the story can be very different.

Bring a friend to a meeting, SJRA meetings are a great night out, we even offer great programs to keep you entertained. We have more than 120 members and growing... Let's see if we can get to 200! We are having a Membership drive. Sponsor two new members and get next year's membership for free. Contact Art, N2CPR if you know someone.

Our club will have a table at the GCRC Hamfest in September and we will need help manning it. If you are interested contact John, W2FDJ or myself if you are interested in helping.

Some of our members put a big station on the air on top of a 2,200 ft mountain in FN21. They will be operating as W2EA and will be operating 50Mhz to 1.2 GHz. If you have VHF gear, point your antennas North. The W2EA team promises to point their antennas to the South.

If you have any ideas or projects that you would like to see the club get involved with, contact any board member or club officer.

Enjoy the rest of the summer and I hope to see you on the air soon.

73's

de Ken K2WB/7

President SJRA

Radio Sport aka Contests

John, W2FDJ, johnd152 at Verizon dot net

Member's Activities:

Please send your thoughts and ideas to me at **johnd152 at Verizon dot net** for publication.

Fall Contest Season starts early this year – see below the two new contests/events scheduled to start on Labor Day weekend. Right after these are the ARRL Sept VHF Contest and the New Jersey QSO party. Numerous contests fill the October-December calendars including one sponsored by us.

The Club QSO Party will be three years old this year (four if you count the 100th anniversary event/contest) So please save the date Oct 19/20 to join in the fun and to operate K2AA/103. It's a quick 24 hour event that pits Amateur Radio Clubs against each other. Individuals in each club and overall who score highly will receive awards. The contest is open to any amateur regardless of club affiliation.

Upcoming Contests – see arrl.org or contestcalendar.com for rules and more details.

Every Tuesday only

Phone Frey 10:30PM-11PM. (yes 30 min)
(ten weeks -4 times a year)

Every Wednesday only

CWops Mini-CWT test 9 -10AM, 3-4PM,
11-12PM (three one hr. sprints)

Every Thursday only

NCCC Sprint 10:30PM-11PM. (yes 30 min.)

Every Thursday only

NCCC RTTY Sprint 9:45-10:15PM. (30 min.)

50 Mhz Fall Sprint: 8/24, Sat 7PM EDT to Sat 11PM. 6mtr – mode not specified.

Hiram Percy Maxim Birthday: 8/30-9/8, Fri 8PM EDT Aug 30 to 7:59PM Sept 8th. All HF/VHF/UHF. Except 60,30,17,12 meter. All modes.

World Wide Digi DX Contest: 8/31-9/1, Sat 8AM EDT to Sun 8AM. HF – FT 4/8.

ARRL Sept VHF Contest: 9/14-15, Sat 2PM EDT to Sun 11PM. 50Mhz and up. All modes.

New Jersey QSO Party: 9/21-22, Sat 2PM EDT to midnight Sun. HF- CW, SSB.

144 Mhz Fall Sprint: 9/23, Mon 7PM EDT to 11PM. 2m only. Modes not specified.

CQ WW DX Contest RTTY: 9/27-29 Fri 8PM EDT to Sun 8PM. HF – RTTY.

Club QSO Party (SJRA sponsored): 10/19-20, Sat 2PM EDT to Sun 2PM. HF, 6m, 2m, 70cm. Any mode.

SJRA Field Day News

John Hill, W2HUV uploaded 4,292 QSO's to LoTW. Our totals are as follows:

23,963 QSO Records

6,311 QSL Records.

Next year we will exceed 25k QSO Records! Thank you John for uploading the files.



SJRA Club QSO Party

This is a great opportunity to get on the air and promote the SJRA!

Dates: October 19 & 20th

Time: Saturday 18:00 UTC (2PM EDST) to Sunday 17:59 UTC (13:59 EDST).

Objective: Work as many Amateur Radio Club members as possible and Listed Amateur Radio Club Stations.

Bands & Modes: All amateur radio bands with the exception of 60m, 30m, 17m & 12m and all modes including repeater contacts will be accepted.

Any K2AA operator effort will count as your own personal effort.

See upcoming announcements for sign-up sheet and full details.

Upcoming Regional Hamfests September 2019

September 7th: **The Ocean Monmouth Amateur Radio Club Fall Hamfest** 7:30am at The Spring Lake Heights Fire Co #1, 700 Sixth Ave, Spring Lake Heights, NJ. Website: <http://www.n2mo.org/index1.html>

September 15th: **ARRL Southern new Jersey Section Convention & Hamfest** 8am at Gloucester County 4-H Fairgrounds, 235 Bridgeton Pike, Mullica Hill, NJ. Website: <http://www.w2mmd.org/>

September 21st & 22nd: **Delaware Valley Historic Radio Club Antique Radio Meet & Auction** Opens 7am at Renningers 740 Noble St, Kutztown, PA. Website: <http://www.dvhrc.com>

September 28th: **Garden State Amateur Radio Association Hamfest** 8am at 100 Tornillo Way, Tinton Falls, NJ. Website: <https://www.gsara.club>

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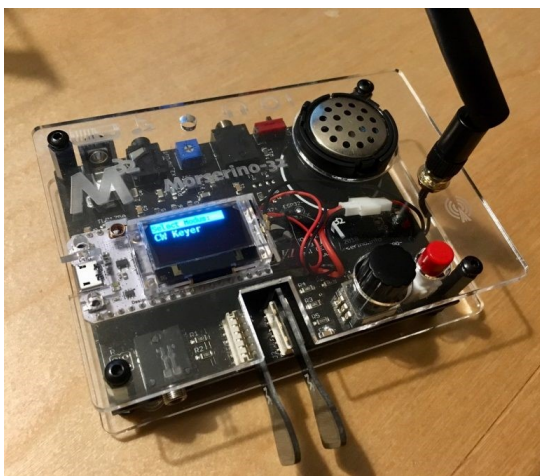
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Learning About Batteries

By Dan Romanchik, KB6NU

I often say that getting an amateur radio license is as much getting a license to learn as it is getting a license to operate on the amateur radio bands. Lately, I've been learning about batteries, LiPo batteries to be exact.

It all started when I purchased a Morserino (<http://morserino.info/>). The Morserino is a Morse Code learning aid that has a number of unique features. For example, in addition to helping you learn the characters, it's also supposed to help you learn how to copy in your head. It also has a built-in touch keyer function, and a LoRa interface that lets you send and receive code from other Morserino units.



I'll be writing more about the Morserino in a future column, but let's get back to batteries. The kit did not come with a battery. Instead, it was suggested that one purchase a 600 mAh LiPo battery commonly used for powering drones. [I found this battery on Amazon](#), and purchased a six pack of them, thinking that I'd find uses for the other five

in some project or another.



Well, sooner than expected, I did find another application for one of the batteries. I'm building a little Arduino project for a client, and I reckon that this, or one with more capacity, will make a great power source for the project.

Now, I have two immediate challenges:

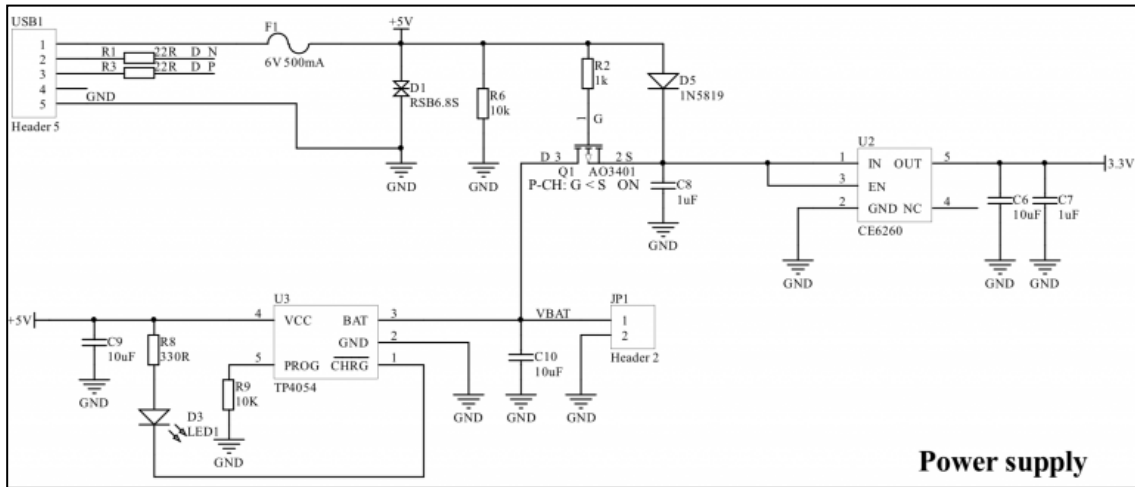
1. Figure out how to charge the battery.
2. Figure out how to connect it to the Arduino.

On the Morserino, the battery plugs directly into a connector on the bottom of the computer board (the white board with the LED display). I knew that connecting the 5V line from the USB connector directly to the battery was a no-no, but I'd lent out the Morserino to a friend, and I didn't have the schematics for the board. So, how they managed to charge the battery from the USB port was a bit of a mystery.

I emailed Willi, OE1WKL, the designer of the Morserino, and he sent me a wealth of information. There actually is a battery-management IC, the TP4054, on the board:

(Continued on page 10)

(Learning About Batteries Continued from page 9)



Power supply

He also gave me the part number for the battery's mating connector. He said, "The mating connector for the Molex connector on the battery is a Molex 51006. It is sometimes referred to by vendors as 51005 female, but 51005 is the connector on the battery." You can, of course, buy pre-made cable assemblies on Amazon (<https://www.amazon.com/gp/product/B07P54QTR8>).

You can also buy lithium battery charging modules (<https://www.amazon.com/gp/product/B01LZSC7I8>). These modules have a TP4056 on them, which is similar to the TP4054. It's amazing to me that you can purchase ten of these things for less than seven bucks.

So, that's where I'm at right now. Once I get the modules and cables, I'm going to hook it all up and get the Arduino system running from the battery. The next step will be to integrate a small solar panel and run the whole thing from solar power, hopefully.

Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog (KB6NU.Com), the "No Nonsense" amateur radio license study guides (<https://www.kb6nu.com/study-guides>) and one of the hosts of the No Nonsense Amateur Radio Podcast: <https://nononsenseamateurradio.com/>

He often wonders if he can learn things fast enough.

SJRA Membership Drive

Attention SJRA Members: Starting June 1st- Sign up two new members by December 31, 2019 and get your 2020 Membership free.

For additional information please contact Art, N2CPR or email:

Membership at sjra dot org

SJRA Jackets, Shirts, Hats

Order NOW - Next order going in soon!



Spring Jacket is \$51 (S,M,L,XL), Fall Jacket is \$58 (S,M,L,XL),
 Shirts are \$28 (S,M,L,XL), Hats are \$20 (one size fits all)
 Name and Call Sign embroidery included....Larger sizes slightly more!
 Email Joe, KC2TN, with orders or additional info: kc2tn at comcast dot net

Amateur Radio FCC License Testing

The SJRA sponsors *FREE* Amateur Radio FCC License testing on the third Wednesday of each month, except Nov & Dec. TBD. The location is: New Brooklyn United Methodist Church; 1336 E. Malaga Rd. Williamstown, NJ 08094. Registration is at 7:00 PM and testing begins at 7:30 PM. Walk-ins are accepted.

VE team members can be reached at **VE at SJRA dot org**. A calendar and more information can be found on the SJRA web site.

August Meeting:**Is the Fourth Wednesday, August 28, 2019**

The meeting commences promptly at 7:30 PM in the first floor Meeting Room of the Gibson House on Main Street, Marlton, NJ 08053. Guests are always welcome.

Program For August:

Our program for August is a presentation on Receiver Performance, Testing & Evaluation by Rob Sherwood, NC0B.

SJRA Member September Birthdays

September Birthdays are: Donald Cavallaro, KD2EHE; Alan Cohen, WA3ZKI; Matthew Grohgans, N2IDW; Alan Handley, K3WWT; John Hill, W2HUV; Craig Martin, N2ASU; John Mulvey, N2ADE; Dominic Sacca Jr., KD2EPM; Gary Smith, KD2RGG and Michael Tolotta, W2OSD

Health and Welfare Co-chairpersons: Roy, WB2EOD and Dara, KC2THQ

September Meeting:**Is the Fourth Wednesday, September 25, 2019.****First Class Mail**

South Jersey Radio Association
15 Pelham Road
Marlton, NJ 08053

