



HARMONICS

1916

South Jersey Radio Association

2019



President's Message

Ken- K2WB



The May meeting program promises to be very exciting. Hopefully our friends "Storm" from the robot club of Lenape and Cherokee High Schools will be showing us their latest competitor. Demonstrations in previous years were very impressive and I trust this one will be the same.

We need your help with Field Day (it will be here before we know it) mark your calendars. Field Day is June 22-23 with set-up starting on Friday June 21st. Please help us by volunteering early and helping with this club event.

On Saturday April 29th, we had a work party to help get our trailer ready for Field Day. Many thanks to Jon W2MC, Frank AA2AW, Mark KD2JPW, John KD2RKA, Carl W2CSH, Al KD2ST and Bob KE2D for

all the hard work that went into the day. Bob and Frank took the time to organize the club's antennas. They are marked much better with clarity. All of this will pay dividends each year in saving us time.

This is an election year for the club, all officers and Board of Director members two-year term is coming to an end. Jon, W2MC is the nomination committee chairperson this year and has presented his slate.

If you are interested in serving your club, you will need someone to nominate you from the floor at the next meeting. Immediately afterward we will hand out ballots for an election.

It is healthy for the club to have changes in personnel so if you are interested in helping let someone on the board of directors know. It takes a lot of help to keep us going. Remember you do not have to be on the Board of Directors to head up a committee.

Contact me if you are unable to attend the meeting because of transportation. Please let me know so we could see if we can arrange something.

73's

Ken K2WB

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 its 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.: Jon MacMillan, W2MC
Treasurer: Roy Herman, WB2EOD
Rec. Sec: Lou Priestley, N2HQL
Cor. Sec: Dennis Cioffi, AC2FO

Directors:

Art Arnold, N2CPR
 Matt Grohgans, N2IDW
 Rick Lawn, W2JAZ
 John Doran, W2FDJ
 Tony Canuso, N2ATB
 Burton Sampley, NJ2IT
 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: Joe Fisher, KC2TN
Programs: Rick Lawn, W2JAZ
H&W: Roy Herman, WB2EOD; and Dara Herman, KC2THQ
Awards: Rick Lawn, W2JAZ
Hospitality: Jean Priestley, KA2YKN
Nets: Matt Grohgans, N2IDW
Publicity: Vacant (Please Volunteer)
Picnic: Vacant (Please Volunteer)
Ways & Means: Roy Herman, WB2EOD
Property: Jon MacMillan, W2MC
Web Site: Ira Weinstein, W2IRA

Harmonics Staff:

Publisher/Editor: Al Ziegler, KD2ST
Alternate Editors: Ted Groke, N8MP and Jon MacMillan, W2MC
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, June 10, 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

Membership Meeting of April 24, 2019

The meeting was opened at 1930 by President Ken, K2WB at the Gibson House in Marlton, NJ. Introductions around, with the answer to the question of the month "What year were you licensed?"

Minutes of the March meeting were approved as published in Harmonics. N2HQL/W2GZV.

Treasurer, Roy, WB2EOD: 120 paid up. Health & Welfare: A card was sent to Mark Walters. Birthday cards went out, May list ready to send to Harmonics.

New Members- Art, N2CPR: John Jones KD2RKA; Robin & Gary Smith, KD2RGI/KD2RGG. The membership drive was announced again.

Programs- Rick, W2JAZ- April- CubeSat, by Alan Johnston: May SJ Storm robotics team: June- Field day Video highlights: July- open: August- Panel discussion on CW Learning/improving: Sept- Member Auction: October- Mesh Networking.

Harmonics- Al, KD2ST- no report.

VE team- N3AVT- 271 tests administered so far.

Nets- no report.

DX Jack, N2VW- Marconi Day International 25 April/ IMD 27 April Saturday. Later: VU7 VU&RI Lakshadweep Island 19 October: Reunion Island FR/F4HPX 15-30 May- Shark Attack Capitol of the world.

Repeater- Joe KC2TN - Antenna has arrived. Bob, K2UQ to take over the committee.

Club Stuff- Please e-mail Joe if you wish to order a Club Polo Shirt.

Radiosport- John W2FDJ - Several sprints in May; 5/24-26 CQWWCW: 6-8-9 ARRL June VHF contest: 6-22-23 ARRL Field Day.

Field Day- Ken- Working 7A. Still need bonus point chairperson.

Nominating Committee Jon W2MC: President, Ken K2WB; Vice President John W2FDJ; Corresponding Secy - Al, KD2ST; Recording Secy- Carl, W2CSH; Treasurer- Roy, WB2EOD. Directors: Art, N2CPR; Al, N3AVT; Tony N2ATB; Matt, N2IDW; Rick, W2JAZ; Burton NJ2IT; Scott NK2N; Holden KD2JPV; Owen, WA2WTF; Bob, K2UQ. Nominations closed until May Meeting KR2T/WB2EOD.

Historian, Mark, KD2JPW- brought some old QSL cards including from the Navassa Island DXpedition.

Trailer work will be on Saturday @ 0900.

Break at 2015. Program at 2025.

Submitted by Lou Priestley, N2HQL

Minutes of April 3, 2019 BOD Meeting

The meeting was opened at 1930 by Ken, K2WB. It was held at the Gibson house as usual.

Bob Sunbury, K2UQ was introduced as a Guest. Bob will be taking over the repeater committee.

A motion to approve the March board minutes, as promulgated by recording secretary N2HQL was made by N2HQL/ N2ATB, the motion passed.

Roy, WB2EOD, - answered many questions regarding the finances of the conference. A motion to waive the reading of the treasurer

(Continued on page 7)

SJRA 2019 Nominating Committee for 2019-2020 Term

Jon, W2MC

Current Officers	Will They Run Again?	Email	Nomination for 2019-2020
President- Ken Botterbrodt, K2WB	Yes (But this is it!)	ken at k2wb dot com	
Vice Pres.- Jon MacMillan, W2MC	No	w2mc at comcast dot net	John Doran, W2FDJ (By Committee)
Treasurer- Roy Herman, WB2EOD	Yes	wb2eod at arrl dot net	
Recording Secretary- Lou Priestly, N2HQL	No	n2hql at comcast dot net	Carl Hyde, W2CSH (From Floor-April 24th Gen Mtg.)
Corresponding Secretary- Dennis Cioffi, AC2FO	Yes	ac2fo at comcast dot net	
Director- Art Arnold, N2CPR	Yes	artarnold at yahoo dot com	
Director- Matt Grohgans, N2IDW	Yes	matt421421 at gmail dot com	
Director- Tony Canuso, N2ATB	Yes	fcanuso at comcast dot net	
Director- Al Witner, N3AVT	Yes	n3avt at yahoo dot com	
Director- John Doran, W2FDJ	VEEP Nom.	johnd152 at Verizon dot net	Nominated by Committee for Vice Pres.
Director- Rick Lawn, W2JAZ	Yes	rjlawn at gmail dot com	
Director- Burton Sampley, NJ2IT	Yes	bsmply at yahoo dot com	

Nominations:

Carl Hyde- W2CSH – Accepted nomination (from the floor-24 April) for Recording Secy.

Scott Holland- NK2N- Accepted nomination (by committee) for BOD

Frank Longbottom- AA2AW- Accepted nomination (by committee) for BOD

Holden Correia-Fisher- KD2JPV – Accepted nomination (by committee) for BOD

Owen Bermann- KA2WTF – Accepted nomination (by committee) for BOD

Bob Sunbury- K2UQ – Accepted nomination (by committee) for BOD

Note: Elections will be held at the May General Meeting.

April 2019 General Meeting

Dr. Alan Johnston, KU2Y, Vice President - Educational Relations for AMSAT was our guest speaker. Dr. Johnston reviewed CubeSats and demonstrated the CubeSat Simulator.

Additional information can be found at: <https://www.amsat.org>



Help Wanted

AI - KD2ST

SJRA needs someone to step up and help or replace Rick, W2JAZ in planning monthly programs. This amounts to covering only 7 months a year, and he has presenters lined up through October. Rick would be happy to continue helping, but it is time for someone else to bring their ideas and new guest presenters. Rick plans to step down at the end of August, but is asking for ideas for the July and November meetings.

If you are interested in volunteering or learning more, please contact Rick, W2JAZ, or any SJRA Officer or Director.

Items for Sale

Kenwood TS-440SAT and PS50 Power supply. Has 1.8 kHz narrow SSB filter; 60 meter mod. Output over 100 watts.

All \$450.

Please contact Art by email: **artarnold at yahoo dot com**

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. I am asking \$300.00 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 at my residence in Atco, N.J. Thank you for your time.

WORLDWIDE DISTRIBUTION



Ken Hartley
Manager
N2OHD

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New Members

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

- Andrew Specian, KD2RXK
- Tom Preiser, N2XW
- Jim Haney, KD2OIL

VE Report for April 17, 2019

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

Ronald R. Grant, KD2RXI
606 Lincoln Terrace
Moorestown, NJ 08057
Earned his Tech

Lillian R. Grant, KD2RXJ
606 Lincoln Terrace
Moorestown, NJ 08057
Earned her Tech

Andrew J. Specian, KD2RXK
29 Delsea Dr. S
Glassboro, NJ 08028
Earned his Tech

Devin J. Carroll, KB1RUU
3900 Chestnut St. Apt. 732
Philadelphia, PA 19104
Earned his Extra

Anthony M. James, KC3NHS
36 S. 4th St.
Denver, PA 17517-1221
Earned his Tech

Harry C. Jelesiewicz, KD2RXL
236 Somerdale Road
Voorhees, NJ 08043
Earned his Tech

Upcoming Regional Hamfests June 2019

June 1st: **The Ocean-Monmouth Amateur Radio Club- Spring Hamfest** 7:30am to noon. At Spring Lakes Fire Company #1-700 Sixth Avenue, Spring Lake Heights, NJ. Website: <http://www.n2mo.org/index1.html>

June 16th: **Raritan Valley Radio Club, W2QW- Hamfest** Open 8AM to noon at Piscataway High School; 110 Behmer Rd, Piscataway, NJ. Website: <http://www.w2qw.org/fest2018.pdf>

June 30th: **W3UU- Harrisburg Radio Amateur's Club Electronics Expo & Hamfest** Open 8AM at Harrisburg Area Community College, 3599 Industrial Rd, Harrisburg, PA. Website: www.w3uu.org/wp-content/uploads/2018/02/Firecracker_Hamfest_Flyer_2018.pdf

Total New or Upgrades to Date

Tech	General	Extra	Total
162	71	38	271

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.

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.)

CQ WW WPX Contest CW: 5/24-26; Fri 8PM EDT to Sun 8PM; HF - CW

ARRL June VHF Contest: 6/8-9, Sat 2PM EDT to Sun 7PM; 50Mhz and up -All modes

ARRL Kids Day: 6/15, Sat 2PM EDT to Sat 8PM

ARRL Field Day: 6/22-23, Sat 2PM EDT to Sun 5PM; All modes

10-10 Int Spirit of 76 QSO Party: 7/1-7, Mon 8PM EDT to Sun 8PM- 10m CW, SSB, PSK31, RTTY, FM, AM

North America QSO Party: 7/20-21, Sat 2PM EDT to Sun 2AM. HF, RTTY

(Meeting Minutes Continued from page 3)

er's report was made by N2HQL/W2JAZ, the report was accepted as sent out.

Health & welfare by Roy, WB2EOD; no illnesses to report, birthday list sent to Harmonics, cards to go out shortly.

Membership by Art, N2CPR: John Jones KD2RKA; Rich Roehm, KD4RJR; Robin Smith, KD2RGI; Gary Smith, KD2RGG. All were accepted, motion by W2MC/W2JAZ.

VE testing: 265 tests passed so far, none at regular session, five at conference.

Programs: April - A presentation by Am-sat: May- SJ Storm robotics team Demo: June-Field Day Wrap; July - Open: Aug- Panel discussion learning/improving CW skills.

Nominating Committee - Jon, W2MC, Chair- needs nominations. Still checking with sitting members.

Nets- Matt N2IDW- Running well. A suggestion was made to continue the swap net as a regular net if the swapping runs short.

Repeater- W2MC-antenna ordered for .865 repeater. A motion was made to leave the existing antenna at the present location when the repeater moves. - the motion passed.

Contests- John, W2FDJ: April 14, ARRL Rookie Roundup. He needs to get Certificates for contest winners. Club QSO party Oct 19, some subtle rule changes are to come.

Old business: Conference- there were discussions on another conference, whether a repeat, or an 'upgraded' session. Some profit was made, final numbers to come. Discussion left for "New" board.

Roy, WB2EOD to get insurance certificates for the various venues we use,

New Business- Discussion regarding Other clubs. A motion was made to make Alan, EI8EM an Honorary member. WB2EOD/W2MC- motion passed. Adjourn @ 2105

Submitted by Lou Priestley, N2HQL.

SJRA Trailer Work Party

The SJRA Trailer received some much needed maintenance and upgrades. The work party was very productive and accomplished the following:

- Cleaned up trailer.
- Removed a lot of the original Owner's decals.
- Installed brackets to store antennas.
- Sorted, repaired and labeled antennas.
- Added removable railing at ramp.
- Added light over ramp.
- Painted ramp with non-slip paint.



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Getting Loaded (Antenna-wise, Anyway)

By Dan Romanchik, KB6NU

A couple of years ago, I homebrewed a "Cobra" antenna (<https://www.kb6nu.com/yet-another-new-antenna-the-cobra/>). It's a doublet antenna, meaning that it consists of two elements connected to a center insulator, where it connects to a feedline. The unique thing about the Cobra antenna is that each element consists of three parallel conductors connected in series.

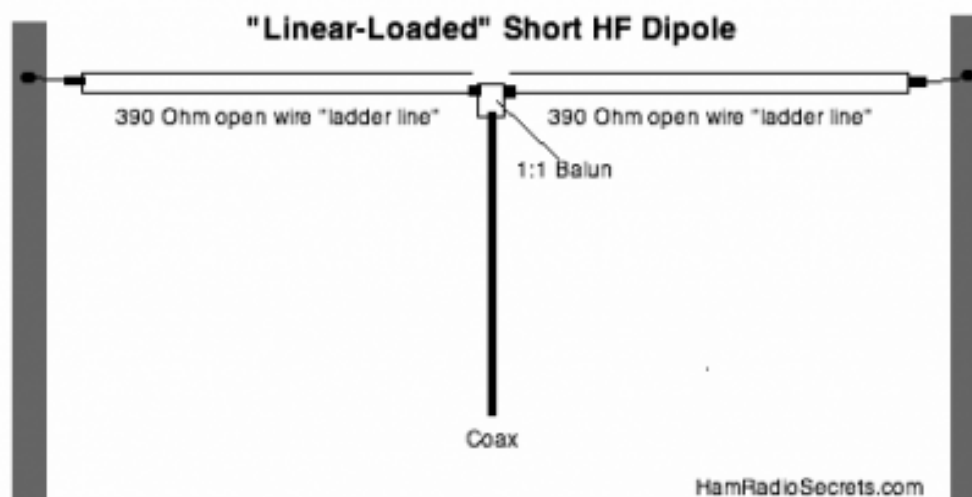
My antenna uses a lightweight, three-conductor rotor cable that used to be available from Radio Shack. The feedline is 450 Ω ladder line that connects to an antenna tuner to give me multi-band operation.

Connecting the conductors in this way is supposed to provide "linear loading." Somehow, running the conductors in parallel is supposed to increase the antenna's effective length. My antenna is only 73-ft. long, but it easily tunes up on 80m.

The *ARRL Antenna Book* has a short section on linear loading. It says that linear loading is a "little understood" alternative to inductive loading that can be applied to almost any type of antenna. Furthermore, "...it introduces very little loss, does not degrade directivity patterns, and has low enough Q to allow reasonably good bandwidths."

As I mentioned, I've been using this antenna with good results for a little more than two years now. When I first put it up, someone mentioned the concept of linear loading to me, but not being an antenna guru, I didn't give it much thought. About a week ago, though, I ran across a link to the page Short Ham Antennas for HF (<https://www.hamradiosecrets.com/short-ham-antennas.html>). That got me thinking about the topic again.

This page describes a way to build a linearly-loaded dipole antenna with a feedpoint impedance of approximately 35 Ω . This allows you to feed it with coax instead of the ladder line that I use. The author uses 390 Ω ladder line for the elements. He says it's



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commonly available, but I don't think I've ever seen 390 Ω ladder line. You could probably use 450 Ω ladder line by adjusting the element lengths a little.

At that point, I started Googling. The next linear-loaded antenna design that I ran across is a design from MOPZT (<http://www.m0pzt.com/40m-linear-loaded-dipole/>). He built his elements from some sturdy wire and homebrewed spacers made from PVC pipe. He's used this design for the 40m elements of a fan dipole covering the 40m, 20m, 15m, and 12m bands. Only the 40m elements are linear-loaded.

I also found a design for a linear loaded vertical antenna for 40m and 80m (<https://www.qsl.net/pa3hbb/ll.htm>). This antenna is only 7.736m, or 25.4 ft. tall. Of course, it requires a good radial system to work well, but it will work a lot better for DX than a low doublet or dipole.

Finally, there's an eHam discussion on linear loading (<https://www.eham.net/ehamforum/smf/index.php?topic=84418.0>). Unlike a lot of eHam discussions, this one is quite civil. It's worth reading if you're interested in the topic.

So, if you're thinking of getting loaded, errrrr, I mean loading your antennas, here's a method for you to consider. It works!

.....

When he's not building antennas or teaching ham radio classes, Dan blogs about amateur radio, writes exam study guides (www.kb6nu.com/study-guides), and operates CW on the HF bands. Look for him on 30m, 40m, and 80m.

SJRA Membership Drive

Attention SJRA Members: Sign up four 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](http://sjra.org)



“Hamming” it up at the SJRA Trailer work party.

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.

May Meeting:**Is the Fourth Wednesday, May 22, 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 May:

Our program for May are the SJRA elections and Lenape School District's Storm Robotics Team demonstration.

SJRA Member June Birthdays

June Birthdays are: William Bowen, KD2DOP; Dennis Cioffi, AC2FO; Mario Dianora, N2AK; Roy Herman, WB2EOD; Frank Longbottom, AA2AW; Jonathan MacMillan, W2MC; Robert Novelle, W2RWN; John Peterson, KD2ODE; Jean Priestley, KA2YKN and Raymond Smith, KD2FMX

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

June Meeting:**Is the Fourth Wednesday, June 26, 2019.****First Class Mail**

South Jersey Radio Association
15 Pelham Road
Marlton, NJ 08053

