



HARMONICS

1916 South Jersey Radio Association 2019



President's Message

Ken- K2WB



As in any healthy organization there will be a minor change in the officers and board of directors. I want to take this opportunity to thank all of the members of the Board of Directors and club officers for serving the SJRA. It takes a lot of commitment to meet and additional 24 times (over the 2-year term). Next, I want to thank the new members of the Board for volunteering their service to the club.

Also, I want to thank the membership for your continued support of the SJRA.

At the writing of this column the SJRA will be 103 years old. It is a privilege being part of the next 100 years of the new history of the SJRA.

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New K2UK Antenna

The new antenna is installed at the new K2UK repeater location in Pine Hill, NJ. Special thanks to Rick, WC2K for another classic installation.



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, July 8, 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 May 22, 2019

The meeting opened early at 1905 due to the long presentation expected and election of officers. We saluted our Flag. The minutes of the April meeting were approved as published in Harmonics, Motion N2HQL/N2VW.

Roy, WB2EOD gave the treasurer's report, 121 paid up members, 3 new approved but not yet paid. The report was approved, motion by WA2JHG/AA2AW. Roy also made the health & welfare report, a card was sent to Ted Dean, KD2ARD on the birth of his child.

Programs by W2JAZ: May- SJ Storm robotics team Demo: June- Field Day Wrap; July - Open: Aug- Panel discussion learning/improving CW skills. Rick reported that the responses to his survey indicated that there were several good CW ops in the club, and several who would like to learn/improve.

VE team- up to 275 tests administered.

Nets- Matt, N2IDW announced the schedule of nets.

DX- no report.

Radiosport: by John, W2FDJ 5/24- 5/26 CQWDXCW; 6/8-6/9 ARRL June VHF: 6/15 ARRL Kids Day: 6/22/6/23 ARRL Field day; 7/1-7/7 10-10 Intl spirit of 76 QSO party.

Repeaters- OK, Club stuff, Joe has some orders awaiting pickup.

We then went into the program, a demonstration of this years' Storm Robotics team effort & robot.

KR2T/W2RLE made a motion to donate the club half of the 50/50 to the storm team, Motion passed.

Jon, W2MC made the election report. Recording Secretary, Lou, N2HQL cast one vote for each unopposed candidate. Elected were: President- Ken, K2WB; Vice President John, W2FDJ; Recording Secretary, Carl, W2CSH; Corresponding Secretary- Dennis, AC2FO; Treasurer- Roy, WB2EOD; Trustees- Art, N2CPR- Tony N2ATB- Holden KD2JPV-Matt, N2IDW, Rick W2JAZ-Frank AA2AW- Al, N3AVT.

Submitted by Lou Priestley, N2HQL

Minutes of May 1, 2019 BOD Meeting

The meeting was opened at 1932 by Ken, K2WB. It was held at the Gibson house as usual. Guests present were Carl, W2CSH & Scott, NK2N.

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

Roy, WB2EOD - read the treasurer's report; the report was accepted, motion by W2MC/N2CPR. 121 paid up members.

Health & welfare by Roy, WB2EOD; June birthday list sent to Harmonics, May cards to go out shortly.

Membership by Art, N2CPR: Andrew Specian, KD2RXK; Tom Presser N2XW; Jim Haney, KD2OIL. All were accepted, motion by W2MC/N2HQL. Art noted we need PR to increase membership, at VE sessions, on

(Continued on page 5)

SJRA 2019 FIELD DAY

June 22 & 23 at Savich Field, Marlton, NJ

Open to the Public!

Hours:

Setup: Friday - June 21st at 9am.

Start: Saturday - June 22nd at 2pm

End: Sunday - June 23 at 5pm.

SJRA needs volunteers to help with our 2019 Field Day Event. If you are interested, even for an hour or two, please contact Field Day Chairman: Ken Botterbrodt, K2WB at: **ken at k2wb dot com**

Come join us, meet new hams, try out different radios and work new modes.

Please note that hard hats and safety glasses are required for volunteers helping set up and take down antennas. Hard hats will be available for purchase at the site.

For additional information on ARRL Field Day, go to: <http://www.arrl.org/field-day>

For additional information about the SJRA, go to: <https://sjra.org>

We will be operating 7A with the following modes:

- **PHONE**
- **CW**
- **DIGITAL**

Please contact the band captains to reserve your time slot. This year's band captains are:

75/15/10m SSB - Jon, W2MC
w2mc at comcast dot net

40m SSB - Ken, K2WB
Ken at k2wb dot com

20m SSB - Dennis, AC2FO
ac2fo at comcast dot net

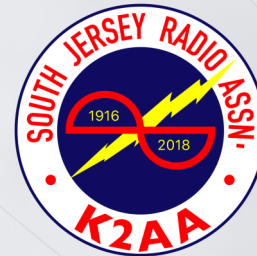
80/15/10m CW - Al, N3AVT
n3avt at yahoo dot com

40/20m CW - Bob, KE2D
bob_beyer at Verizon dot net

40/20/15 Digital - Al, KD2ST
Al.kd2st at gmail dot com

GOTA Station - Burton, NJ2IT
bsmply at yahoo dot com

The GOTA Station will be available for newly licensed amateurs, other generally inactive licensees and non-licensed persons to experience first-hand the fun of amateur radio.



(President's Message Continued from page 1)

Our Field Day operation is world class. We have fun and still manage to hold a strong position in the top position in our category of 7A. It is a great opportunity to meet and work with fellow SJRA members. This year we are going to attempt to run 7A. We are also doing several reconfigurations that should help maintain our position.

Most importantly we need your help.

Setup will start around 9:00 AM on Friday June 21st and will continue to sunset. Then starting again around 9:00 AM on Saturday until the start of the contest. Operations will run 24 hours starting at 14:00 on Saturday.

Take down is equally important and also requires a lot of help. Please come out and support your radio club. There will be an operator monitoring K2AA repeater Friday and Saturday. When you head over check in on the repeater as you leave your QTH. We may need something that you can bring or help with.

73's
Ken K2WB

(Meeting Minutes from page 3)

the website, at meetings and in Harmonics.

VE testing: 271 tests passed so far.

Website: Discussion regarding needs and wants. We need web designers for updates.

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

Nominating Committee - Jon, W2MC, Read the current list of candidates.

Field Day- We have permits for the site and the insurance certificates for the next year.

Nets- Running well.

Repeater-W2MC-antenna received for .865 repeater.

Contests- John, W2FDJ: We are in a quiet period, CQWW WPX CW May 24-26. We need more logs submitted even if for few points.

Old business: Fox Hunts in works-(Mark & Carl) working on them.

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

New Business- the 5/22 meeting will need to start @1900 so we can get election/business done without interfering with the Storm Robotics Demo. Ken has made some contacts regarding working on LV79 for lighthouse weekend.

Adjourn @ 2105

Submitted by N2HQL

Member News

John Jones, KD2RKA passed the General exam on June 1st and upgraded from Technician. Congratulations John on your recent achievement.

New Members

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

- John Baran, KD2PZW

SJRA Election Results

SJRA Officers Term- July 2019 thru June 2021	
President	Ken Botterbrodt, K2WB
Vice President	John Doran, W2FDJ
Treasurer	Roy Herman, WB2EOD
Recording Secretary	Carl Hyde, W2CSH
Corresponding Secretary	Dennis Cioffi, AC2FO

SJRA Directors Term- July 2019 thru June 2021	
Art Arnold, N2CPR	
Matt Grohgans, N2IDW	
Tony Canuso, N2ATB	
Al Witner, N3AVT	
Rick Lawn, W2JAZ	
Frank Longbottom, AA2AW	
Holden Correia-Fisher, KD2JPV	

VE Report for May 15, 2019

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

Lawrence C. Nelson, Jr, KD2LBV
5 Whiting St.
Berlin, NJ 08009
Earned his General

Matthew W. Rittman, KD2RLG
31 Westwood Ave.
Bridgeton, NJ 08302
Earned his General

Philip A. Wernig, KD2SCN
113 Lewis Ct.
Franklinville, NJ 08322
Earned his General

Total New or Upgrades to Date

Tech	General	Extra	Total
162	74	38	274

Upcoming Regional Hamfests July 2019

July 13th: **Valley Forge Hamfest** 8am at Kimberton Fire Co. Fairgrounds; 762 Pike Springs Rd, Phoenixville, PA. Website: <http://www.marc-radio.org/>

July 14th: **Sussex County ARC- Hamfest** Open 8AM at Sussex County Fairgrounds; 37 Plains Rd, Augusta, NJ. Website: <http://www.scarcnj.org/downloads/hamfest%20flyer.pdf>

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.

CQ WPX CW (was May 25-26)

Dom, KD2EPM 31 QSO's, 26 Prefix, 988 Points.

And in a most creative way to operate without a home station, John, W2HUV submitted the following Soapbox report.

"I would like to thank the Gloucester County Amateur Radio Club in Mullica Hill, NJ for the use of their W2MMD remote HF station during the contest. The rig was an IC- 7300 barefoot with a Force 12 tri-bander on 15 and 20 meters and a 3-element 40 meter beam intermeshed at about 55'. An inverted-L was used on 80 meters.

This was the first time that the remote station was used in a contest. Virtually all operation was in the S & P mode due to low power operation. This resulted in more frequent antenna position changes. I had to run to the station once on Saturday and again on Sunday to reset the antenna rotator controller when I was no longer able to change the antenna position. I would say that station performance was great otherwise".

John, W2HUV operated W2MMD, but credited his score to SJRA, recorded 289 Qso's, 256 prefix, for a score of 222,720 Points.

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.)

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

North America QSO Party: 8/3-4, Sat
2PM EDT to Sun 2AM. HF, CW

North America QSO Party: 8/17-18, Sat
2PM EDT to Sun 2AM. HF, SSB

WORLDWIDE DISTRIBUTION



Ken Hartley
Manager
N2OHD

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Items for Sale

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>

\$5,500. Please contact Joe by email: [kc2tn at comcast dot net](mailto:kc2tn@comcast.net)

Kenwood TS-440SAT HF Transceiver covering 160 thru 10 meters. >100 watts all bands. Auto antenna covers 80 thru 10 meters including 60 meters.

Has been modified to show 100 kHz readout. Mars capable. 60 meters has been open up full power out. General coverage 100 kHz to 29.999 MHz. Modes: AM, FM, SSB, CW, FSK. Included factory hand mike. Narrow SSB filter (1.8 kHz) soldered in. Filter switch- 1.8, 2.4 & 6 kHz.

Power cord uncut. **TS 50** power supply with power cord attached. Matches radio. Good condition.

All for \$450. or make a reasonable offer. Please contact Art by email: [artarnold at yahoo dot com](mailto:artarnold@yahoo.com). Also have **ICOM 706**

MK2G. Serial number starts with 150. Updated model from factory with new finals. With HM 103 hand mike. Power cord, 1.9 SSB Filter. General coverage from 100 kHz to 200 MHz All mode- AM, FM, CW & SSB. Ham bands 160 thru 10 meters plus 6 & 2m and 440 MHz. \$650.

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](mailto:ken@k2wb.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.

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Congratulations to South Jersey Radio on your Centennial

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100 YEARS
1916 2016
AMATEUR RADIO

COMPLETE GRAPHIC DESIGN • HIGH-RES PROMOTIONAL PRODUCTS • GREENING

Fox Hunting AKA Radio Direction Finding

By Mark Walters, KD2JPW, SJRA member

The science and art of radio direction finding has been occurring for almost as long as radio signals have been transmitted and receiving stations have been listening and trying to adjust their receivers, antennas and equipment to obtain the best signal possible. In the case of Fox Hunting, we are essentially performing the same operations but with a few twists. Radio direction finding utilizes various techniques to track the direction of the transmitter and ultimately move in the direction of the signal source until you are able to pinpoint the source of the radio signal, most often, a nuisance noise signal or rogue operator transmitting illegally. In the case of Fox Hunting, radio operators use the same skills used in radio direction finding, however, this time it is for fun and helps one learn the techniques used for when a real radio direction finding hunt is needed.

SJRA at one time many years ago routinely conducted fox hunts for fun amongst their own members. It can be very fun and simple as you would like it to be or as sophisticated and competitive as you like.

Fox hunting can be done rather inexpensively and doesn't require a great deal of equipment beyond what many radio operators already have or can obtain and assemble from a local radio shop and hardware store.

Typical Equipment:

Handheld 2M radio: Yaesu VX6R or equivalent.

Low power 2M transmitter (the Fox): A Byonics 15W MICRO-FOX MF-15 or Rig

Expert REDFOX144-5 or equivalent home brew micro transmitter.

Directional antenna: Handheld 2M Yagi, an Arrow Antenna FHL-VHF loop antenna or an equivalent home brew "Tape Measure" Yagi.

Method of signal attenuation: MFJ-762 Step attenuator or equivalent. Signal attenuation methods can be as simple as detuning your radio receiver from the transmitter signal by slightly changing frequency away from the transmitter signal frequency or by using a commercially available step attenuator that decreases available antenna signal input to your radio receiver. The purpose of the attenuator is to reduce the amount of signal reaching your radio so that you can audibly begin to notice changes in transmitter signal; louder audio or a stronger signal bar as your point your antenna in the direction of the transmitter or weaker as you point your antenna away from the direction of the transmitter.

The Hunt: Equipment is turned on, you scan the horizon with your directional antenna and the direction in which you find the maximum signal strength is then the direction you must head towards as you move closer to the source of the fox/transmitter. As you get closer, the signal level will increase to the point where it will saturate your signal meter and audio signal and no further direction information can be obtained because it is too strong in all directions. At this point, you add more signal attenuation so that you can then detect audible or visual signal changes based on the direction you point your directional antenna. Once you determine a new maximum signal direction, you have again found the direction of the fox and this process continues.

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Eventually, by using these and various other techniques you continually advance and redirect to find the fox/transmitter and the hunt is over.

If you would like to get involved please let us know, "A Hunting We Will Go..." Happy Hunting.



Reviving The SJRA Fox Hunt", 05/11/19, Savich Field!! Beta Test Day! KD2OIL (Jim), KD2JPW (Mark) & KH7JO (Riz)

Want to know more real quick? Check out <http://www.arrl.org/direction-finding> and www.homingin.com

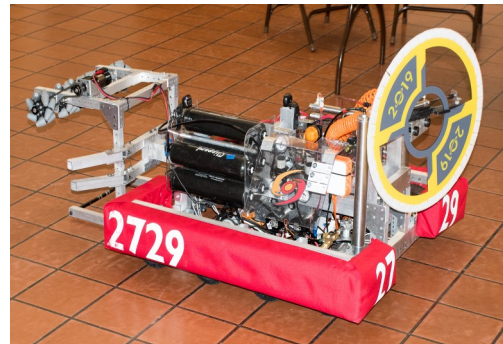
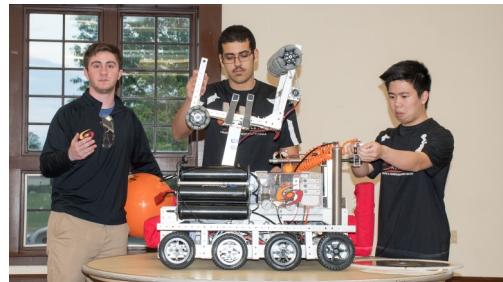


SJRA Monthly Breakfast

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.

Storm Robotics Team

The Lenape & Cherokee High Schools' Storm Robotics Team put on a fantastic demonstration and presentation at the May General Meeting. The students designed, built and programmed the robot which has incredible functionality and was designed to accomplish a deep space mission. The SJRA would like to thank the Team for their presentation.



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](mailto:sjra@arrl.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.

June Meeting:**Is the Fourth Wednesday, June 26, 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 June:

Our program for June is the SJRA Field Day review and video.

SJRA Member July Birthdays

July Birthdays are: Michael Davis, KB1JEY; John Doran, W2FDJ; Craig Henning, NC2H; Carol Hutkin, K2BL

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

July Meeting:**Is the Fourth Wednesday, July 24, 2019.****First Class Mail**

South Jersey Radio Association
15 Pelham Road
Marlton, NJ 08053

