



# HARMONICS

1916

South Jersey Radio Association

2018



## Which Way Does Current Really Flow?

Dan, KB6NU, [cwgeek at kb6nu dot com](mailto:cwgeek@kb6nu.com)

I was recently taken to task by one of my blog readers regarding my description of current flow in my No Nonsense Technician Class License Study Guide. He wrote:

"You casually say that current flows from Positive to Negative (with cool accompanying directional arrows), without any accompanying qualifying statement. Over the years I have looked at *all* the views on the subject. Positive to Negative is *not* what I was taught 48 years ago, and I have never seen a good reason to change my view."

In a subsequent email, he pointed me to a Nuts 'n Volts article, "Which Way Does Current Really Flow?" (<http://www.nutsvolts.com/magazine/article/which-way-does-current-really-flow>) and asked my opinion. In the article, the author, who is a ham by the way, does a good job of explaining the various types of current flow.

I agree that in electronic circuits electrons flow from negative to positive, but it really doesn't matter. I agree with one the article's commenters who says,

"This is a silly argument. It's like comparing apples and oranges and challenging people to take sides.

"Electron flow is not current flow. Electron flow is easy to understand, an actual physical property, and a real help in under-

standing vacuum tube operation. But it falls apart when one needs to understand complex electronic systems.

"*Conventional* current flow is a mathematical abstraction. It is defined as a net flow of positive charge, irrespective of the polarity of the physical charge carriers — whether electrons, holes, positive or negative ions, or whatever.

"When looking at any circuit containing a resistance with a voltage across it, conventional current through that resistor says that the voltage drop occurs as the current through it meets resistance. On the other hand, in negative (electron) flow, a voltage *increase* will correspond to the 'current' flow through it, clearly violating physical laws. Conventional current flow is consistent with the laws of physics and those of other engineering disciplines.

"You are correct that engineers, professors and scientists use conventional current flow. That is not because they are too obtuse to understand electron flow; I assure you they fully understand it. It is because in their world they have to solve more general problems involving complex math and science, and, again, conventional current flow is consistent with physical laws.

"It is unfortunate that electron flow and current flow are so often confused. They both have their place."

(Continued on page 4)

## 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 Room 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](http://www.sjra.org) or from Alan Handley, K3WWT, 610-532-5407 Email: [sjra@sjra.org](mailto:sjra@sjra.org) SJRA's web page: [www.sjra.org](http://www.sjra.org)

SJRA VE Team: [ve@sjra.org](mailto:ve@sjra.org) is the SJRA/ARRL VUCC card checker

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

\*\*\*\*\*  
 ★ 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/sections/?sect=SNJ> ★  
 ★\*\*\*\*\*

### 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 Walter, KD2JPW  
**Membership:** 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:** John Fogleboch, WY2J  
**Publicity:** Vacant (Please Volunteer)  
**Picnic:** Vacant (Please Volunteer)  
**Ways & Means:** Ray Golley, N3RG  
**Property:** Jon MacMillan, W2MC  
**Web Site:** Ira Weinstein, W2IRA

### Harmonics Staff:

**Publisher/Editor:** Ted Groke, W2TAG  
**Alternate Editor:** Rick Stoneking, W2RDS  
**Circulation:** Jim Vecchiola, KR2T

### LOCAL WEEKLY NETS

Monday	K2AA, Medford	145.290 @ 8PM
Fusion on 2 <sup>ND</sup> & 4 <sup>TH</sup> Thurs. and 2M SSB on 3 <sup>RD</sup> Thurs.	Various Locations	145.290 @ 8PM, Fusion 144.270 MHz USB

### Harmonics Deadline

Articles submitted for the next Harmonics will be accepted until Monday, April 9, 2018. Email: [ted.w2tag@gmail.com](mailto:ted.w2tag@gmail.com)

**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 General Membership Meeting of 28 Feb 2018

The meeting, held at the Gibson House was opened at 1930 by Ken, K2WB with a salute to our flag.

Minutes of the January meeting were approved as printed in Harmonics- motion by N2HQL/W2MC.

Roy, WB2EOD gave the treasurer's report, total membership is up to 90 paid members. Report was accepted on motion made by W2MC/WA2JHG.

No new members were reported this month.

Health & Welfare- Bob Fields has been hospitalized for surgery, Joe KC2TN has suffered a broken ankle.

Programs by W2JAZ: March- DMR demystified by N2ATB: April- Remote operation by John Hill: May (hopefully) the Jersey Storm Robotics team: June- Field Day Wrap up or meet & greet.

Harmonics- need new editor.

VE team- tested 1 last month, tried out Laurel "Session Manager" software.

Nets- WY2J- Doing well

Contests- by W2FDJ 3/2-3 ARRL DX SSB; 3/23-24 CQ WW WPX SSB ; 4/9 144 mhz spring sprint ;4/17 222mhz spring sprint ; 4/25 432 mhz spring sprint .

Awards presented to SJRA from SJRA QS: party- a gavel; W2EA med club category- a plaque.

Repeater- K2UK- we are closer to a

new location, We need \$1500 for escrow to cover engineering expenses, etc. Approval granted to the board to continue, by a motion, N2CPR/NJ2IT.

Several fund raisers were suggested to cover this expense. Business meeting was recessed at 2005, and at 2024 we began the auction of white elephant items.

### Board of Directors Meeting 2/7/2018

The meeting was opened by Jon, W2MC at the Gibson House in Marlton, NJ. Minutes of the January Directors meeting were approved with a few minor spelling corrections.

Treasurers report-was made, there was discussion regarding the expiration date of membership, March 31 was settled on as the date.- Roy will send a list of paid members to the membership. Motion to approve by N2CPR/W2FDJ- motion passed.

New members- no report, Correspondence- no report.

Programs by W2JAZ- no changes to lineups previously given, scheduled programs are as announced through July.

Health & Welfare: WB2EOD's mother had minor stroke. Roy and Dara will sponsor the sending of birthday cards to the membership.

VE team: we have tested many, hope to test many more, per Al, N3AVT,

Field day is 24 June, this year, prior to our June meeting.

*(Continued on page 10)*



## Radio Sport aka Contests

John, W2FDJ, johnd152 at verizon dot net

### Member's activities

*Please send your thoughts and ideas to me at johnd152@verizon.net for publication.*

The recent ARRL DX contests gave participants some excellent band conditions on both 80 and 40 meters. On the CW weekend noise was very low and 40 meters was open both to the Pacific and Europe for long periods between 8PM-4AM EDT. New Zealand and Japanese stations were being worked. Almost similar conditions were present during the SSB weekend although the noise floor was higher.

**Recent posted results, see arrl.org or CQ**

### ARRL International DX SSB Contest

John, W2FDJ, 138 QSO's, 41,400 Points

Frank, AA2AW, 120 QSO's, 21,960 Points

Joe, K2WJL, 68 QSO's, 10,812 Points

This contest was notable for both Frank, AA2AW, and Joe, K2WJL,. Frank recently completed a station rebuild and now concentrating on logging and filing the results.

Joe, K2WJL, is back in the DX contest after his many previous years but at his new location, which is not as antenna friendly.

*Please send me your summary sheet so I will be able to list your claimed score next time. John/W2FDJ: contests at sjra dot org*

*Upcoming contests, see arrl.org or wa7bnn.com for rules and more details.*

### Every Tuesday only:

Phone Fray, 10:30PM-11PM. (yes 30 minutes) (ten weeks, four times a year)

### Every Wednesday only:

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

### Every Thursday only

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

CQ WW WPX Contest SSB, 3/23-24, Fri 7PM EST to Sun 8PM.

144Mhz Spring Sprint, 4/9, Monday 7-11PM EDT.

222Mhz Spring Sprint, 4/17, Tuesday 7-11PM EDT.

(Continued on page 8)

RINTING • DIGITAL PRINTING • WIDE FORMAT OUTPUT • LAMINATION • MOUNTING

# PRINTING



**(856) 435-7320**

*Congratulations to South Jersey Radio on your Centennial*

9 Minnetonka Road • Hi-Nella, NJ 08083  
[printing@sandovalgraphics.com](mailto:printing@sandovalgraphics.com)



COMPLETE GRAPHIC DESIGN • PROMOTIONAL PRODUCTS • GREENING • SILK SCREENING • EMBROIDERY

FILM OUTPUT • OFFSET PRINTING

## Who Needs Bonus Points We doll

Vernal Equinox is here and yet there is fresh snow on the ground. This still makes me think of Field Day only 94 days away. Believe it or not it will be here before we know it. The SJRA Field Day tradition runs over several generations starting in 1935. Even in the beginning our club has always done well.

Last Year was no exception, First Place in 7A and finishing 5th place overall. This is something to be very proud of. Now is not the time to sit on our laurels and get started again.

Rich, KV2R, has been our bonus point chairman for many years. This year he is unable to assist with Field Day because of scheduling problems. I am looking for someone to assist Rich and take over his role.

The job description is as follows:

1. Read and understand the Field Day Rules.
2. Send out the press releases and invitations
3. Arrange someone to get each of the possible bonus points and document it being done.
4. It is not required that this person actually does the bonus points, just sees that is being done.
5. Lastly assist in the preparation of the Field Day submission to the ARRL.

That's' it. Rich will be around before Field Day to coach and help with a smooth transition.

Let me or Rich know that you're a can do member.

Ken, K2WB/JA1

## Announcement:

Help the SJRA prevent the following situation: Our Editor will not be able to produce Harmonics in May of this year and he is planning on retiring from the position in less than 20 months.

The immediate need is this upcoming May. At this time no-one out of the 90+ members of the club have offered to help. If we stay on this path there will not be a May issue of Harmonics. I have asked for help at several meetings and got nothing (this is discouraging). As a club we are on a path of no newsletter. *Please Don't Let This Happen.* There has to be someone that can take this on.

### Facts:

1. Editor or Publisher does not have to write articles. Just organize the material into our standard 12-page document using desktop publishing software each month.
2. Editor simply sends the file to the printer and sends a PDF version to the membership.

Please step up now so that you can work with our Editor during the April edition of our newsletter. Contact Ted or myself if you are able to help.

Ken, K2WB/JA1



## President's Message

Ken – K2WB

Our white elephant sale went very well. Lots of goodies for redistribution. Some may come back next year, you will never know.

The weather this month has been interesting. I put out several calls on the repeater to see who was listening... and reach no-one. When the weather turns bad or something out of the ordinary happens. It is a good idea to monitor K2AA.

Field Day will be here before we know it. Time to start thinking what you can do for the SJRA at field day, we are a team and it requires many talents to keep the SJRA #1 in the 7A category. Contact me and be part of the team! This is our only club event and *The SJRA Needs You.*

Better yet have two friends join the SJRA in addition to renewing.

Roy, WB2EOD, has been getting a large number of Membership Renewals; we have more than 90 members and hopefully more to come. If you had not done so it is time, otherwise you will not be receiving harmonics after this issue. Please send in your SJRA membership renewal as soon as you can, act now so you don't get missed in the next roster.

The K2UK repeater is going to move from its home of 30+ years, sooner than later. A little background for clarity. The Camden County Autopatch Association disbanded a couple of years ago. We (the SJRA) agreed to take ownership of the equipment and continued to manage the repeater.

Now it needs to move to a new home, Joe, KC2TN, will need your help to move things. The K2UK will supply stop working during its move. The good news is that the

new location is within the distance that does not require coordination changes. The bad news is that will take a little time to get K2UK back on the air. Let Joe, KC2TN, know if you are interested in helping. We could use as much help as possible.

It will also be necessary to do some fund raising to cover the expenses of doing this.

Support our nets and check in. It is a good way to meet other members of the club. Check in today.

The SJRA is looking for an Editor of Harmonics to replace Ted, W2TAG. Ted has been doing the Job for over 20 years and he has decided to retire from the position. To this end I need to find a replacement for Ted quickly otherwise we may not have a newsletter. With over 90 members I am sure someone can help.



WORLDWIDE DISTRIBUTION



**Ken Hartley**  
 Manager  
 N2OHD

1509 N. Dupont Hwy. #7  
 New Castle, DE 19720  
 (302) 322-7092 • 800-644-4476  
 (302) 322-8808 Fax  
 newcastle@hamradio.com

ANAHEIM, CA • ATLANTA, GA • BURBANK, CA • DENVER, CO  
 NEW CASTLE, DE • OAKLAND, CA • PHOENIX, AZ • PLANO, TX • PORTLAND, OR  
 SALEM, NH • SAN DIEGO, CA • SUNNYVALE, CA • WOODBRIDGE, VA

*(Radio Sport Report from page 5)*

432Mhz Spring Sprint, 4/25, Wednesday 7-11PM EDT.

10-10 International Spring Contest, Digital, 4/27-8, Friday 8PM EDT to Sunday 8PM.

Microwave Spring Sprint, 5/5, Saturday 8AM EDT to 2PM.

50Mhz Spring Sprint, 5/12, Saturday 6PM EDT to 11PM.

CQ WW WPX Contest CW

5/25-26 , Fri 8PM EDT to Sun 8PM

ARRL June VHF Contest

6/9-10, Sat 2PM EDT to Sun 11PM

ARRL Field Day

6/23-24 , Sat 2PM EDT to Sun 5PM

Other Thoughts

I have long been a fan of YouTube video's for their entertainment value. But more importantly for research, education, repairs, and how things are made. Hopefully you are all making use of this valuable resource. There are quite a few Ham Radio related video's and many scientific oriented. Each month I will highlight one or two that I have enjoyed.

**Just go to: <https://www.youtube.com>**

And enter the title of the video in the search window.

"The IBM 1401 compiles and runs Fortran II" a video uploaded by CuriousMarc made me smile remembering courses I took at Rutgers in the 70's in Fortran and Cobol. I don't know what machine Rutgers in Camden had but the equipment sure looked just like that in the video. Mostly I recall each time making the punch cards and waiting to see if the student lesson we were working on actually ran and resulted in the correct printout.

TV Manufacturing: "The Reasons Why" 1959 RCA Designing and Making Televisions uploaded by Jeff Quitney. As my father and grandfather worked at RCA during the time frame of this video I had an interest in the subject. There were a few references to local sites in Medford and Cherry Hill. This video shows the huge efforts manufacturers go through to make sure all the components and systems function properly and meet all standards.

"Is a Dipole better than a Cobweb Antenna? Ham Radio Aerials explored" One of many videos posted by DX Commander. He keeps his video's short and practical. He backs up his subjects with desktop antenna analysis and tests on products. He recently ran thru tests on best mics to use for YouTube.

*If you can recommended any video's, please let me know and I will share them with the membership. John, W2FDJ*

## FYI

For those who want to integrate a Software Defined Radio into their shack, using their existing equipment, here is a link to the Twin City DX Association's March 2018 newsletter. The first article in the newsletter by Kirk, N0KK, tells you how.

Paul, N2EME, states it this way: "even a basic \$25 RTL running SDR Console is probably a better receiver than your IC-XXX, TSXXX or KXX."

Here's the link:

**<http://www.tcdxa.org/Newsletters/March2018GrayLine.pdf>**

### SJRA NET INFORMATION

**Monday night FM nets on K2AA repeater, 145.290 MHz, PL 91.5 Hz.**

1st Monday 8PM, Net Control: Dom, KD2EPM

2nd Monday 8PM, Net Control: Holden, KD2JPV

3rd Monday 8PM, Net Control: John, W2FDJ

4th Monday 8PM, Net Control: Matt, N2IDW

**Thursday night Fusion nets on K2AA repeater 145.290 MHz DN mode AMS off.**

2nd Thursday 8PM, Net Control: Art, N2CPR

4th Thursday 8PM, Net Control: Roy, WB2EOD

**Thursday night SSB nets on 144.270 MHz USB Voice and Digital (1KHz Subcarrier)**

1st Thursday 8PM, Net Control: Matt, N2IDW. Call in and First Round on SSB Voice. Second Round Digital including PSK31, Olivia, FT-8, JT-9, JT-65, etc.

3rd Thursday 8PM, SSB USB Voice only  
**Backup Net Control, All nets except SSB Digital: John, WY2J**



Ken, K2WB, in Enoshima Japan, showing just how far the SJRA logo can travel.

## Test Session Report for February 14, 2018

The SJRA would like to congratulate the following on their recent Amateur Radio licensing achievements:

*(Please note: Test Session Reports are published in Harmonics the month after the test session so we can publish passing technicians newly assigned call.)*

Gallego Angelo, JR KC3KPM  
4 Summerhouse Ln.  
Middletown, DE 19709-4614  
Earned his General

	Tech	General	Extra	Total
To Date	137	58	34	229

## Items for Sale

50 Foot Free Standing Tower (not heavy duty). Tower is on the ground in two pieces that bolt together at the 30 foot level. \$100.

*All proceeds from the sale of this item will be donated to SJRA.*

Contact Ted, W2TAG  
Tabernacle, NJ  
ted.w2tag at gmail dot com

*(Meeting Minutes from page 3)*

Repeater: by Joe KC2TN- new machine installed in Medford, appears to be working well.

No old or New business was brought up, Adjournment was at 2018, motion by N2ATB/W2FDJ.

Minutes by Lou, N2HQL  
SJRA Rec. Sec.

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

Email Ted, W2TAG, with your listing:  
ted.w2tag at gmail dot com

## If you have not already done so, it's time to renew your SJRA membership for 2018.

Current dues are:

- ◆ \$30.00 for Full Membership
- ◆ \$22.50 for Seniors 65 years of age or older (must have been Full Membership for at least one year to qualify)
- ◆ \$15.00 for each additional family member
- ◆ \$15.00 Students.

Please make checks payable to, *South Jersey Radio Association*, and send them to:

Roy Herman, WB2EOD  
19 Bryce Road  
Voorhees, NJ 08043

We also accept PayPal. Please send payment to dues *at sjra dot org* (please include an extra \$1 to cover PayPal Fee).

Thank you, Roy Hermon  
WB2EOD  
SJRA Treasurer  
Treasurer *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 \$25 (one size fits all)  
Name and Call Sign embroidery included....Larger sizes slightly more!

### Amateur Radio FCC License Testing

The SJRA sponsors *FREE* Amateur Radio FCC License testing on the second Wednesday of each month. The location is: 443 Commerce Lane, Suite 5, West Berlin, NJ 08091. Registration is at 7:00 PM and testing begins at 7:30PM. 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.

**March Meeting:****Is the **fourth** Wednesday, March 28, 2018**

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

**Program For March:**

DMR demystified by Mario, N2AK and Tony, N2ATB.

**SJRA Member April Birthdays**

Betty Fletcher, KB2WDG; Scott Holland, NK2N.

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

**April Meeting:****Is the **fourth** Wednesday, April 25, 2018****First Class Mail**

South Jersey Radio Association  
15 Pelham Road  
Marlton, NJ 08053

