



# HARMONICS

1916

South Jersey Radio Association

2014



## HAM TECH

Vol 5 No. 10 by John - WY2J

wy2j at arrl dot net

### APRS on the Cheap

#### Part 1 of 1

**Introduction** - Automatic Packet Reporting System (APRS) is a digital mode that combines Packet Radio communication with GPS to provide an error free digital text message communication system with station location information and a graphical presentation on a map. It is often seen as a communication aid to the mobile ham but some of the data carried by it like the hundreds of private weather stations are useful to the fixed QTH station. Your author never tried the mode until late last year and this article is a summary of his experience, failures and a neat and cheap way to try it and use it if you find it meets your needs. Your author found that it is a very clever solution to a problem he didn't have and spending \$7.98 total for an education was worth it. He recommends you spend \$3.99 and see for yourself if you have a home for it. This requires that you own an Apple iPad or iPhone.

**Basics of APRS** - In the US all APRS is transmitted on 2 meter simplex, 1200 baud FM, on 144.39 MHz and the public internet using internet protocol (IP) packets. The data packets support an excellent error correction protocol that identifies corrupted data packets and requests repeats from the sender until received correctly. It is the same

system used by the public internet. Since 2 meter simplex is a short distance mode, each station functions like a repeater retransmitting received packets with an internal digipeater. The APRS crowd learned early that unbounded digipeaters quickly become massive QRM generators so all modern digipeaters are usually limited to one or two hop retransmissions. For greater distance the packets enter the public internet via fixed gateway stations. The gateways and the public internet allow the system to work worldwide.

For an RF connection to the APRS system most modern 2 meter FM rigs have a data port that can be connected to a PC via a terminal node controller (TNC) that supports KISS mode. The TNC may contain the digipeater hardware and an interface to a GPS receiver. The final piece of the station is a PC running free APRS software. This approach less the GPS was selected last year by WY2J to try out APRS.

**A Failed Attempt** - The lowest cost KISS mode TNC found was the MFJ 1270X at \$130 plus a MFJ 1270DG XDigi for \$30. Add to this \$15 for a data cable to connect to my Yaesu FT7800 FM rig and I have \$175 invested in this experiment. The YAAC APRS client software was free and included Google Maps. The manual that came with the 1270X was at most 6 pages and discussed hardware only including how to in-

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## 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 K2AA Repeater or from Mary Von Lintig, KV2M, 856-772-6475

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

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 ★ **Harmonics** is now available 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> ★  
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### Officers

**President:** Ken Botterbrodt, K2WB  
**Vice Pres.:** Jon Mac Millan, W2MC  
**Treasurer:** Ray Golley, N3RG  
**Rec. Sec:** Lou Priestley, N2HQL  
**Cor. Sec:** Dennis Cioffi, AC2FO

### Directors:

Roy Herman, WB2EOD  
 Rich VonLintig, KV2R  
 Rick Lawn, W2JAZ  
 Ira Weinstein, W2IRA  
 Mary VonLintig, KV2M  
 Jim Vecchiola, KR2T  
 Al Witner, N3AVT

### Committees:

**Historian:** Mary VonLintig, KV2M  
**Membership:** Mary VonLintig, KV2M  
**Field Day:** Ken Botterbrodt, K2WB  
**Contests:** Jon Mac Millan, W2MC  
**Repeater:** Joe Fisher, KC2TN  
**Programs:** Rick Lawn, W2JAZ  
**H&W:** Roy Herman, WB2EOD; and Dara Herman, KC2THQ  
**Awards:** Rick Stoneking, W2RDS  
**Hospitality:** Jean Priestley, KA2YKN  
**Nets:** John Fogleboch, WY2J  
**Publicity:** **Vacant (Please Volunteer)**  
**Picnic:** **Vacant (Please Volunteer)**  
**Ways & Means:** Ray Golley, N3RG  
**Property:** Jon Mac Millan, W2MC  
**Web Site:** Ira Weinstein, W2IRA

### Harmonics Staff:

**Publisher/Editor:** Ted Groke, W2TAG  
**Alternate Editor:** **Vacant (Please Volunteer)**  
**Circulation:** Mary VonLintig, KV2M;  
 Jim Vecchiola, KR2T

### LOCAL WEEKLY NETS

Monday	K2AA, Medford	145.290 @ 8PM
Alternating Thursday	Various Locations	28.405 @ 8PM

### Harmonics Deadline

Articles submitted for the next Harmonics will be accepted until Monday, November 10, 2014. 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

### Membership Meeting of September 24, 2014

The meeting was opened at the Gibson House in Marlton, NJ by Jon, W2MC, at 1930 with a flag salute.

A motion to accept the minutes of the August meeting was made by N2HQL/WA2DUE, the motion passed.

Ray, N3RG, made the Treasurers report, including that we have 106 members.

New members by Mary, KV2M: Harry Kingsmill, K1NGY. As historian, she presented copies of clippings from 1962, 1936, 1924 meetings (in the basement of the Collingswood library).

Roy, WB2EOD, reported receiving a thank you from the family of Rich Wesley, KC2UXV. He also reported the passing of the mother of Dara, KC2THQ.

Programs- September- Consignment Auction; October, Mario, N2AK, with the frequency counter addition to the transmitter kit; November, Joel from VRF connections.

Harmonics deadline: 6 October. Ted, W2TAG, is still seeking an assistant editor.

VE- Al, N3AVT; 103 tests administered so far.

Nets: John, WY2J, The 10 meter net to reopen Oct 2<sup>nd</sup>. To run on 1<sup>st</sup> and 3<sup>rd</sup> weeks due to shortage of net controller ops.

Contests: NJ QSO party, Oct 4 and 5 Don, AK2S, spoke about it.

Repeater, Joe, KC2TN: Still no progress on K2UK location. He is still taking orders for Club Stuff.

Jon, W2MC, mentioned the collection jar for the 100<sup>th</sup> anniversary committee. Jon requested ID's before the auction.

No old business.

New Business- The Christmas party is planned to be at the Gibson house. N2DJY tower available. Skip, N2EI, announced the deadline for nominations for Section manager had passed and he was elected by default.

Short recess at 2000 before the auction.

### Board Meeting of October 1, 2014

The meeting was held at the Gibson house, being opened at 1934 by Ken, K2WB. All were present except: W2IRA, N3RG, W2MC, and W2JAZ.

Motion to accept minutes as printed: N2HQL/N3AVT- Passed.

Treasurer by Ray, N3RG,: Gearing up for renewals and new repeater antenna purchased.

Membership by Mary: Mark Muncie, N/C: J. Garnier, KC2CSH: Motion to accept by KV2M/KV2R- Passed. Mary mentioned the passing of member Dan Damiano, KC2ELC, information to be passed to the estate committee.

Corresponding Secretary, AC2FO: He received an e-mail from a prospective member who got lost trying to find our last meeting. He was given the address and a list of landmarks to follow. This was a case of poor GPS directions.

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*(Ham Tech from page 1)*

stall the small XDigi board. There was no software included or web sites for downloads. It should have been a simple interface task requiring setting up a virtual serial port and selecting the number of digipeater hops. There was an MFJ Help Desk phone number that I called but no useful software support could be obtained. A web site I found led to a University in Scotland that had software to program the UART chip in the USB to Serial interface. It didn't work even after closely following 19 pages of instructions. I gave up and sent everything back to MFJ for a full refund which they granted.

**Open APRS on the iPhone** - I recalled from a 2013 QST article on APRS client software by Steve Ford WB8IMY, QST Editor, that there was an Apple App for running APRS on the iPhone. I went to the App Store and for \$3.99 loaded it onto my iPhone 4S. It is called Open APRS iPhone Edition. You have to do a registration including your call sign and e-mail address to activate it which may take up to a day. I found out later that they have a different App that is customized to the Apple iPad which I recommend over the iPhone version because of the screen size. You don't have to do a new registration to add the iPad but you do have to purchase the App for another \$3.99, very cheap for what it does. I run it on an Apple iPad Mini where it will display 200 stations as opposed to 66 on the phone. The obvious question I am sure is what about Android Apps. The answer is I don't know what is available as I don't own their hardware

**How does it work** - As you may recall all APRS data finds its way to the public internet very quickly via APRS gateway stations. The 2 meter FM transceiver, TNC and GPS receiver isn't really needed. The iPhone and

iPad connect through their cellular or WiFi connections although the WiFi connection is not very practical for a mobile application. Both the iPhone and iPad contain a good GPS receiver and the balance of the APRS functions are in the software. When you open the App on an iPad it connects to the system servers via the internet and transmits data like an IRLP or Echo Link reflector for all 200 stations in your geographic area. Figure 1 shows a screen shot of 200 stations centered on the WY2J QTH.

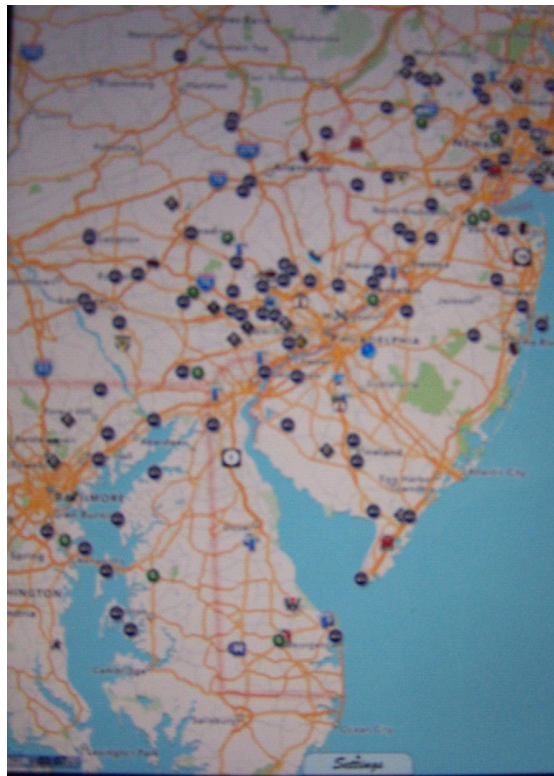


Figure 1, APRS stations viewed at WY2J QTH

Many of the blue circles are amateur weather stations which if you click will bring

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up a detailed data screen. The little red car icons are mobiles and clicking on will provide the data screen giving call sign, SSID, latitude, longitude speed, altitude and course. I have also found airplanes.

On the tool bar at the bottom of the screen you can select messaging which will bring up a text message function for sending or receiving using call sign addressing. The settings tab allows access to frequently changed settings like beacon update time and GPS on/off etc.

Figure 2 below is a close up screen shot of the author's mobile icon, the -7 SSID and the arrow to click to display data on WY2J.



Figure 2, Close up APRS map centered on WY2J.

The SSID is a designation to identify different classes of stations using the same call sign. The mobiles are generally -9 however the -7 indicates the station can receive messages and will reply. The numbering is not totally followed and the frequently observed K2WB mobile does not use any SSID.

The Open APRS system works very well on an iPad when the screen is set to never go to sleep but it will kill your battery so keep it attached to external power in your car. I can't believe that a driver would use it

while driving 70 mph as it is more dangerous than texting. Does it fill a real need for the mobile ham? Not me. I had it running on a recent trip across Pennsylvania and never used it. My 2 M / 70 cm mobile rig was kept busy making plenty of rag chew Q's using mountaintop linked repeaters.

**Next Month** - It has been over seven years since the FCC eliminated Morse code from the licensing requirement and a lot of new hams have been minted without it. So I will do a two part series on Morse and the CW mode. November will cover the History and Mythology of our oldest mode. December will answer the question, where is the Signal Processing in CW?

## SJRA Members Birthdays

### November

3- Joe Lameiras, K2WJL  
213 Willow St  
Delanco, NJ 08075

8 - Mary Vonlintig, KV2M (B)  
14 Carlisle Drive  
Voorhees, NJ 08043

16 - Mike Fischback, KB2RHI  
214 S. Lincoln St.  
Moorestown, NJ 08057

21 - Jerry Parker, KC2JTT  
1819 CREEK RD  
HAINSPORT, NJ 08036

26 - Richard VonLintig, KV2R (B)  
14 Carlisle Drive  
Voorhees, NJ 08043

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

## Four Score and Three Years and Four Months Ago South Jersey Radio Association Hamfest

After over a decade as Historian for SJRA, I am still trying to organize those mountains of stuff covering nearly a century. There has been some progress, but there are unknown forces at work. During the night, aliens must come to our QTH and mess up the attempts I have made to get tranquility and stability to those files. During one of my attempts to brave the radically shifting climate of that back room I found a piece of paper hiding inside other pieces of paper. This relic is over 80 years old and did indeed show its age. It was a list of Amateur Radio operators who attended the SJRA Hamfest at the Walt Whitman Hotel on 13 June 1931. I made a copy of this ancient relic and brought it to one of the SJRA general meetings. I thought many of you SJRAers who were not at that meeting would enjoy it. For those of you who already saw this, consider it a rerun.

Here goes:

List of Amateurs Attending Hamfest of South Jersey Radio Association Walt Whitman Hotel - 13 June 1931

W3ACD, W3AGE & XYL, W3AHE, W3AHZ, W3AIS, W3AJN, W3AJS, W3AKD, W3AKF, W3AMR, W3ANU, W3ANZ, W3APC, W3APV, W3ARN, W3ARN-2<sup>nd</sup>, W3ARV, W3ASB, W3ASV, W3AVI, W3BAY, W3BD, W3BDO, W3BDT, W3BEI, W3BFC, W3BFH, W3BGW, W3BIG, W3BKD, W3BMC, W3BO, W3BQC, W3BQS, W3BUF, W3CG, W3CGS, W3CJN, W3CL, W3CO, W3DY, W3FQ, W3FY, W3IN, W3KW, W3LC, W3NF, W3NG, W3PB, W3QL,

W3QV & XYL, W3SM & XYL, W3TP, W3VB, W3VE, W3VI, W3VL, W3VX & XYL, W3ZF, W3ZI, W3XAD, EX-W3AIN, W8ABR, W8AYG, W8AZT, W8CMP, W3ANR-WCAM, W3BEU-WCAM, W3BGP-WCAM, EX-W3AUM-WFCZ.

Also were the following names:

Berret, Bowen, Crisante, Green, Hamilton, Kentner, Kuehr, Luith, Neath, Noles, Norcross and YL, Rhoads, Simpson, Soffe, Stern, Uncle Walt, Weidman, Yeager, Henry.

I have been able to identify a few of these calls. Here are the ones I was able to place with a name:

W3BAY - Ed Braddock

W3BMC - Robert Creighton

W3BEI - Walter Filson

W3VX - Charles Jenkins

W3ACD - Jess Haydock

W3QV - Brad Martin

W3KW - Roger W. Barrington

W3QL - Gedney Rigor

and of course

W3BO - Gordon Kerssel

Back then our great radio club was a teenager - just 15 years old. We grew and also changed in some ways. After all, to change is to live. No matter how old we become, we will always be young at heart and ready for whatever the future has in store for us. Our wisdom, knowledge, experience, giving, sense of humor, and that very special SJRAness will take us where no radio club has gone before.

73 to All and I am History  
Mary, KV2M



## More Shared Birthdays

*From the SJRA Membership Meeting on 24 September 2014*

Again, for the month of September 2014 I requested that all who attended the meeting to put their birthdates next to their names. I wanted to test out those statistics about shared birthdays for another round. Thirty-five of you who were at the meeting did put the month and date of your appearance into this world by your name. Thank you.

The probability that there would be a commonly shared birthday with 35 people was quite strong:

30 people - 70.6 Percent

40 people - 89.1 Percent

Yup, it did indeed happen again. Two people who attended the meeting did share the same birthday. 27 August was the winning day. At first I thought that I really hit outstanding 'pay dirt' since the date of 27 August appeared not two but three times in the SJRA sign in books. Upon closer scrutiny, I discovered that one of the 'Birthday People' had signed the book twice, not to mention any names (Lou - N2HQL). The two shared Birthdays were Lou - N2HQL and Maggie Doyle.

The first person to greet a New Year was Joe Fisher - KC2TN on 2 January and the last person to say farewell to the year was Pat Doyle - KD2P on 27 December. He just made it in time to be a tax deduction.

The winning month for the most Birthdays was June. Six of us entered the world the same month as the summer solstice. May the sun shine brightly on you.

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## Twitter: Another Tool in the Ham Radio Toolbox

Dan, KB6NU, cwgeek at kb6nu dot com

It all starts innocently enough. You get a computer to do your logging, and before you know it, you're working digital modes. Then, you snake an Ethernet cable down to the shack or connect to your wireless router. Pretty soon, you can't do without having a browser window open to one of the DX clusters or ReverseBeacon.Net or QRZ.Com or all three simultaneously.

Well, now's there another Internet service that I can't do without down in the shack: Twitter! I get on Twitter all the time now when I'm in the shack, and I love it. It's truly enhanced my amateur radio experience.

One of the ways it's done this is by bringing me all kinds of interesting technical information. I not only follow @hackaday and @DIYEngineering, and @EDN.Com, but a bunch of hams who are doing fun things. I hate to list some, for fear of leaving some out, but I will give a shout out to @NT7S, @AA7EE, @mightyohm, @caulktel, @LA3ZA. There's even @HiramPMaxim (the P stands for "parody"). If you go to my blog at KB6NU.Com and search for "From my Twitter feed," you'll find links to some of the most interesting Tweets that have found their way to me.

I'm also following a couple of amateur radio retailers. Today, for example, @DXEngineering is offering \$55 off the RigExpert AA-54 Antenna Analyzer.

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## President's Message

Ken – K2WB

As the leaves start turning and will eventually fall to the ground. This is a time for cooler weather in the evenings and warm days. It is also the start of the contest season for those who enjoy contests.

I heard a couple of SJRA members in the NJ QSO Party. Jon, W2MC, and I activated all of the South Jersey Counties using K2AA. We worked several DX stations including Finland on 40m Phone. We already are working out plans for next year. Hopefully our combined scores will put the SJRA on top of the club competition.

The next big "SJRA" event will be the November Sweepstakes. Traditionally the SJRA will provide any member who submits their log with the SJRA as their club affiliation the normal ARRL awards should you qualify. These would be a participation pin for anyone who makes at least 100 contacts and a clean sweep coffee mug for anyone that contacts all 83 ARRL/RAC sections. CW is November 1-3 and SSB is November 15-17. For more information go to the ARRL webpage for rules and more information.

CQWW - A couple of SJRA members are going to Turks and Caicos in the Caribbean to operate CQWW SSB this year. Look for VP5T and help them out. I also encourage anyone to operate in the contest. This is one that is easy and you can achieve DXCC in one weekend with 100W transmitter and a simple antenna farm. From New Jersey & Pennsylvania the exchange is easy... Just remember 59 05 (Signal) and CQWW Zone and have fun.

If you do participate in a contest, you can help the SJRA by listing the SJRA as your affiliated club. The club robot needs it

put as "South Jersey Radio Assn" to count. Send your summary sheets to contests@sjra.org

Awards -Rick, W2RDS, will start looking for nominations for the club awards. These are the Amateur of the Year and the Gordon Kressel award. To nominate someone who is deserving of an award email Lou with details of why and which award they qualify for. Send your nominations to awards@sjra.org.

Renewals - It is that time of year again, time to renew your membership. Ray, N3RG, will be sending out renewal forms soon. Renew early so that you don't miss any editions of Harmonics.

The repeater committee has installed a new antenna on top of the Medford Water Tower. Hopefully this will resolve some of the problems the repeater has had. Special thanks to Rick, WC2K, and Joe, KC2TN, for getting this done.

Committees - We are still looking for an assistant editor for Harmonics, someone to help Mary, KV2M, with membership and historian rolls. Please contact me if you are interested.

In addition, there are several SJRA members who would like to come to our meetings but are unable to drive. If you can help (especially from the Mount Holly area) contact me or Jon, W2MC.

As always we are always looking for new members of the SJRA. One of the best and easiest ways to help the SJRA is to encourage anyone that is not a member to become a member. If you know someone who would like to join the SJRA contact Mary KV2M (membership chairperson).

### Monthly Puzzle

Don – WA2DUE, wa2due at arrl dot net

#### Reviewing last month puzzles:

A Cape May trawling company has two trawlers. They leave port at the same time sailing on a course of 090 True for one hour at cruising speed of 10 knots. Boat A drops his net and starts trolling on a course of 025True and boat B does likewise on a course of 170True. Both ships troll at a speed of 4 knots. After 5 hours of fishing boat B has total propulsion failure. The captain of boat B calls boat A and request towing back to port. How long will it take boat A cruising at 10 knots to reach the position of boat B? And, what course must boat A sail to go directly to boat B?

Answer: We have here an isosceles triangle with two sides of 20 nautical miles and an included angle of 170 minus 25 or 145 degrees. Using the Law of cosines we solve for the unknown side, which is 38.15 nautical miles. Sailing at 10 knots boat A should reach boat B in 3.8 hours. By drawing a plot of both trawlers it will be seen that boat A must sail slightly West of the North South meridian. The angle that boat A made with this meridian was 25 degrees and the angle of concern with the isosceles triangle is 17.5 degrees. Subtracting the two leaves 7.5 to be added on to the 180 giving a bearing of 187.5 degrees true.

What is the effective voltage to a circuit fed by a AC generator delivering 425 Volts Peak? If the circuit has a resistance of 500 Ohms, what is the effective current?

Answer?  $V_{eff} = 0.707V_{max}$  therefore  $425 \times 0.707 = 300.48$  Volts and 0.60 Amperes effective current.

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I also use it to get information about weather conditions and band conditions. For example, I follow @edvielmetti, who is KD8OQG. He's always tweeting about local severe weather. A Tweet from him gets me to turn on my 2m radio to monitor the local SkyWarn net.

As far as band conditions go, I throw out a Tweet, asking about band conditions, and in seconds, I'll get reports from my followers here in the U.S. and around the world. I try to do my part as well. When I fire up the rig, I'll Tweet out a report of how the bands seem to me.

While all of this is great, it's really all about the people. I currently have more 2,200 followers and I follow more than 900. I would never have met some of these hams if it wasn't for Twitter, and I have since worked several of them on the air after first meeting them on Twitter. Last May, we had a "Tweetup" at the Dayton Hamvention. There were at least 20 of us there. How cool is that?

Twitter isn't for everyone, but I'd encourage you to give it a try. I'm having a lot of fun on Twitter, and I think you will, too. If you do set up a Twitter account, please follow me, @kb6nu. If you mention that you read this column, I'll be sure to follow you back.



*When not Tweeting about his latest amateur radio exploits, you'll find KB6NU working 30m CW or teaching ham radio classes. If Twitter isn't your thing, you can still follow him by reading his blog at [www.kb6nu.com](http://www.kb6nu.com).*

*(More Shared Birthdays from page 7)*

Thank you again for your cooperation in sating my curiosity with this shared birthday statistic.

Mary, KV2M (8 November)

*(Meeting Minutes from page 3)*

Harmonics- Ted still needs an assistant. Ken has asked several members who were unable to volunteer.

Repeater- New antenna ready, we need to get keys from Township and permission to go up.

Contests- November SS coming up.

Awards- time to start.

Trustee- License renewed.

Health & Welfare- 1<sup>st</sup> half of month cards sent out, second half to mail later. Joe, K2WJL, has had shoulder pain, it turned out to be a tumor in his lung- He will undergo radiation and chemo to shrink the tumor so it can be removed.

VE- 103 tests so far- next session on October 8<sup>th</sup>.

100<sup>th</sup> anniversary: Ken got some positive response from the division director regarding some activities.

A motion to allow the committee some autonomy in fund raising efforts was made by N2HQL/AC2FO- Passed.

Old- Christmas party: Caterer and menu to be selected in November board meeting. Several options are available.

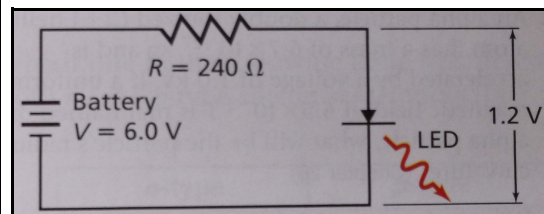
No new business, adjourn motion by KR2T/WB2EOD.

Respectfully submitted by:  
Lou, N2HQL, Recording Secretary

*(Monthly Puzzle from page 9)*

**For next month let us have fun with these puzzles:**

A 6.0 Volt battery and a 240 Ohm resistor and a LED are connected in series. The LED is dimly glowing. The voltage drop across the LED is measured as 1.2 Volts. To raise the current by 50% to make the LED glow brighter, what value of resistor would is required to replace the 240 Ohm one? Assume that the LED forward resistance is constant.



A rectangular plot of land has a perimeter of 156 km and an area of 1505 km<sup>2</sup>. Calculate the length and width of this plot.

Please submit solutions and/or comments to wa2due at arrl dot net.

The SJRA congratulates the following on their recent achievements:

Mark Muncie

605-A Country Club Parkway

Mount Laurel, NJ 08054

Mark just joined SJRA this month

Earned his Tech

Stephen Bockius, KD2HAD

1177 Lawnton Avenue

West Deptford, NJ 08096

Earned his General

Alan Reinhart\*

101 E. Gibbsboro Road

Lindenwold, NJ 08021

Earned his General

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## SJRA Jackets, Shirts, Hats

Order NOW - Next order going in soon!



Spring Jacket is \$44 (S,M,L,XL), Fall Jacket is \$55 (S,M,L,XL),  
 Shirts are \$27 (S,M,L,XL), Hats are \$25 (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*

<p><i>(Congratulations from page 10)</i></p> <p><i>*Alan had let his license expire and took the Tech test and passed so he received a General class license. His call used to be WA3VSI. He will be given a new call.</i></p>	<p>Matthew Douglas III - Tech                  25 Frederick Street                  Sicklerville, NJ 08081                  Earned his Tech</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 15%;"></th> <th style="width: 15%;">Tech</th> <th style="width: 15%;">General</th> <th style="width: 15%;">Extra</th> <th style="width: 15%;">Total</th> </tr> </thead> <tbody> <tr> <td>To Date</td> <td style="text-align: center;">69</td> <td style="text-align: center;">26</td> <td style="text-align: center;">12</td> <td style="text-align: center;">107</td> </tr> </tbody> </table>		Tech	General	Extra	Total	To Date	69	26	12	107
	Tech	General	Extra	Total							
To Date	69	26	12	107							

**October Meeting:**

**Fourth Wednesday, October 26, 2014**

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 October:**

**Prelude to New Frequency Counter Kit By Mario Dianora, N2AK**

Mario's presentation describes how Frequency Counters are used and how they function. His new frequency counter kit can be used with last years 40M Transmitter Kit.

**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.

**First Class Mail**

South Jersey Radio Association  
PO Box 1026  
Haddonfield, NJ 08033

