October 2013 VOL XCVIII, ISSUE 4

HARMONICS

1916 South Jersey Radio Association 2013

Should the FCC Allow Encryption?

Dan, KB6NU, cwgeek *at* kb6nu *dot* com

One of the most fundamental rules in amateur radio has been the prohibition against the use of codes or ciphers meant to obscure the meaning of a message [Part 97.113 (4)]. Recently, that long-standing prohibition was challenged (http://www.arrl.org/news/rules-change-sought-to-permit-encryption-of-sensitive-emergency-communications) to allow encryption when passing emergency health and welfare traffic. The idea was that encrypting these messages would protect the privacy of individuals. In his Petition for Rulemaking (http://apps.fcc.gov/ecfs/document/view?id=7022424684), Don Rolph, AB1PH, pointed out that Australian amateur radio rules permit encryption for emergency services operation or related training exercises.

Oddly enough, the pushback against this petition has been loud and swift. The ARRL quickly came out against the petition (http://www.arrl.org/news/arrl-urges-denial-of-petition-to-permit-encryption-of-some-emergency-communications), and when I blogged about this issue (http://www.kb6nu.com/im-jumping-on-the-anti-encryption-bandwagon/), several hams replied that they didn't think allowing encryption was a good idea.

The main arguments against encryption seem to be that:

- It will make people suspicious of amateur radio operators and bring unwanted scrutiny upon amateur radio.
- Make self-policing more difficult.

Among the arguments for allowing encryption are that cryptography is a fundamental element of modern RF communications, and that not allowing it, negates one of the purpose of amateur radio. Namely, that one of the purposes of amateur radio is to "advance the state of the radio art."

In late September, the FCC dismissed this particular Petition for Rulemaking (http://www.arrl.org/news/fcc-dismisses-encryption-petition). It stated specifically that "the record does not support Mr Rolph's assertion that the prohibition on encrypted amateur communications is impairing the ability of the Amateur Radio community to provide effective support to public safety agencies during emergencies."

Of course, this discussion isn't over yet. Encryption is now employed routinely for even the most common types of digital communication, and as a newer generation of amateur radio operators take over, they'll want to experiment with these digital communications techniques. One commenter suggested that a portion of the 900 MHz band or maybe the 5 GHz band be set aside

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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 it's inception. The club has been affiliated with the American Radio Relay League since 1920.

The SJRA meets each month on the fourth Wednesday, January through September; and usually the third Wednesday, October, November and December; in one of the Meeting 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 *at* sjra *dot* org SJRA's web page www.sjra.org

Mark O'Brien, K2AX, is the SJRA/ARRL VUCC card checker

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

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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Publicity: Debbie Pullaro, W9QWN
Picnic:: Debbie Pullaro, W9QWN
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Harmonics Staff:

Publisher/Editor: Ted Groke, W2TAG or Don Beaulieu, WA2DUE
Circulation: Mary VonLintig, KV2M; Jim Vecchiola, KR2T

LOCAL WEEKLY NETS

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

Harmonics Deadline

Articles submitted for the next HARMONICS will be accepted until Monday, November 11, 2013. Email: ted.w2tag *at* gmail *dot* 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

General Meeting of 9/25/13

Meeting opened at 1930 by Dennis, AC2FO, at the Gibson house. We saluted the American flag, and ran a quick round of introductions. We had about 50 people present. Motion to approve the minutes as printed, made by N2HQL/ KV2R- motion passed. There was no treasurers report due to lack of the treasurer.

New members- Mary, KV2M: Ray, WB2NBJ; Bob, KB2COB; Ron, N2WYZ; Bill, KD2DOP. Stated she was almost out of badge clips. As Historian, she presented a copy of the 1909 Wireless Blue book.

Health & Welfare: Kathy, KM2KME – need new information sheets to update her files. For programs: Sept; Auction: Oct; Mario with a new homebrew project: November; open: December: Christmas party and awards presentation.

Harmonics- deadline is October 7th. VE testing- for September, 7 people passed 10 test elements. Several passed one element but failed to pass an attempted second. Nets- John, WY2J: Counts are down due to the summer, they should come up as fall arrives. He still needs a net control for 10 meters. No DX report.

Repeater- Joe, KC2TN: We now have the K2UK repeaters from Camden County Autopatch. He will take trusteeship of the call as soon as the transfer can be accomplished. Club Stuff: Joe is still taking orders (Christmas is coming).

Web Team- Ira, W2IRA: Updating going on. Awards: Lou, N2HQL, made his first appeal for nominations, explanations etc., will be in Harmonics and on the web.

Old Business: Boy Scouts Jamboree on the Air will be 19/20 Oct along the Delaware, near Campbell Stadium; No New business or by the ways, we recessed to prepare for the auction, manned by auctioneer Roy, WB2EOD.

Board Meeting of 10/2/13

The meeting opened at 1935 at the Gibson House. Missing were K2WB, AC2FO, W9QWN, N3RG, N3AVT. Minutes of the September meeting were approved after discussion regarding Lou checking the web page and sending comments/corrections to Ira, W2IRA.

Members: Welcome back to Pat, KD2P; Welcome to John Doren, W2FDJ; and Jordan Bookstaber, NC. Motion to accept by KV2R/KM2KME. Historian Mary, KV2M, showed a picture from the 1942 club picnic.

Health & Welfare: Bruce, W2BE, will be having surgery on his left arm to fix up spurs and ligaments.

Programs: Oct- Homebrew, Nov open, Dec- Christmas party/awards.

Web- moving to new host.

Repeaters; All 3 still working.

Awards– Still awaiting nominations; some discussions regarding board selected awards.

No old business:

New business: Discussions regarding the Christmas party and having it at the Gibson house (catered). Details and head counts to start at the next general meeting.

HAM TECH

Vol 4 No. 10 by John - WY2J

wy2j *at* arrl *dot* net

HF RECEIVER NON-LINEAR DISTORTION

Part 1 of 3 Introduction and Theory

Introduction – One of the most important functions that a Ham receiver or the receiver portion of a modern transceiver performs for us is to separate the hundreds of strong signals from the weak one that we are working on a crowed band like 20 meters. This is the QRM problem that I partially addressed in my four part series on Selectivity and Receiver Filters in HAM TECH that appeared in Harmonics from October 2012 to January 2013. We separate two or more radio signals from the desired one with frequency domain filters that are made up of inductors and capacitors, quartz crystals, magnetic structures that make up the famous Collins mechanical filter or by building a special high speed computer known as a digital signal processor (DSP) and programming it with the math equations of filters. They all work and are all used in transceivers marketed today. But how well they work in very crowded bands with many strong signals close to the desired weak one is a function of other issues.

A Little Theory: - When multiple signals on different frequencies arrive at the antenna they are linearly added together. Superposition theory states that we can separate those signals providing they pass through only linear devices. But the world is not precisely linear. Most of the devices in radio receivers are slightly non-linear and some of them like limiters and class C amplifiers used in FM radios are highly non-linear by design. We all know that when FM systems receive two signals the stronger will suppress the weaker, a desirable feature if we want to enhance the quality of the stronger signal. However for modes like SSB, CW, PSK-31 and others the slight non-linearity of amplifiers and mixers in receivers can cause all kinds of havoc by generating new frequencies that can fall inside the spectrum of the desired signal and can never be removed with filters of any kind. Let's examine what is happening with a power series equation, which does a good job of describing these slightly non-linear receiver devices. It is given as Equation 1 below. The signals are sine waves so each value of ein is the peak value of $e_{in} \sin(2\pi ft)$.

Equation 1: $E_o = a_0 + a_1 e_{in} + a_2 e_{in}^{\ 2} + a_3 e_{in}^{\ 3} + a_4 e_{in}^{\ 4} + a_5 e_{in}^{\ 5} + \ldots\ldots..$

This equation describes the output signal voltage of an "almost" linear device like an amplifier as a function of the input signal voltage. The a_0 term is the DC output and if we insert a DC blocking capacitor or transformer it will go away. The a_1 term is the gain of the amplifier, a constant that implies linear operation. The a_2 term is the gain of what we commonly refer to as the square law term. Devices with this term enhanced through selective biasing make fair amplitude detectors, harmonic generators, and frequency mixers. And here is where trouble starts. You have to multiply the e_{in} terms by $\sin(2\pi ft)$ or $\cos(2\pi ft)$ then raise to the respective power to see all the harmonics of frequency appear. If you insert two different signals with two different frequencies you will see all the sum and difference frequencies of the signals and harmonics appear. Welcome to the world of Inter-Modulation Distortion (IMD). We are not going to solve this rather extensive problem in trigonome-

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***(Ham Tech** from page 4)*

try because other methods of performance prediction have been developed with far less math.

However it is important to understand that if you increase the input by 1 dB the linear tern will increase by exactly 1 dB but the squared term will increase by 2 dB, the cubed tern by 3 dB and so on. The intermodulation components that fall in our desired signal bandwidth are highly dependent on the input signal levels, thus minimizing the gain in devices ahead of the final filter is highly desirable.

Inter-modulation Products – If we supply two signals, F_1 and F_2 into a non-linear device we will get the following outputs: F_1 , F_2 , $2F_1$, $2F_2$, $3F_1$, $3F_2$, …..($F_1 – F_2$), ($F_1 + F_2$), ($F_2 – F_1$), ($2F_1 – F_2$), ($2F_2 – F_1$), ($2F_1 + F_2$), ($2F_2 + F_1$),…($3F_1 – 2F_2$), ($3F_2 – 2F_1$)…… and more. The two input frequencies are assumed to be outside the pass band of the final filter so they are rejected. The same is true for the harmonics, the sum terms and the even order terms like ($F_1 – F_2$) and ($2F_1 – 2F_2$). These are easily filtered out. The problems are the 3rd, 5th and higher odd order terms with a subtraction of frequencies such as ($2F_1 – F_2$). This is a 3rd order term and usually the worst problem. Let's assume a 100 KHz center frequency with a 2 KHz bandwidth filter covering 99 to 101 KHz. Let's place two interfering signals outside the signal band at 98 and 96 KHz. The 3rd order term is at 2(98) – 96 = 196 – 96 = 100 KHz, right at band center and there is no way to get rid of it except by improving the linearity or lowering the signal levels. This is why you can turn off preamps and insert attenuators in most modern rigs.

Intercept Points – With the introduction of SSB in military HF radios in the late 1950's and early 60's the focus of receiver and transmitter design started to move to solving the linearity problems in both. Digital computers were just starting to be used in the design process but the slide rule was still the engineer's primary tool often augmented with many graphical methods inherited from the vacuum tube culture.

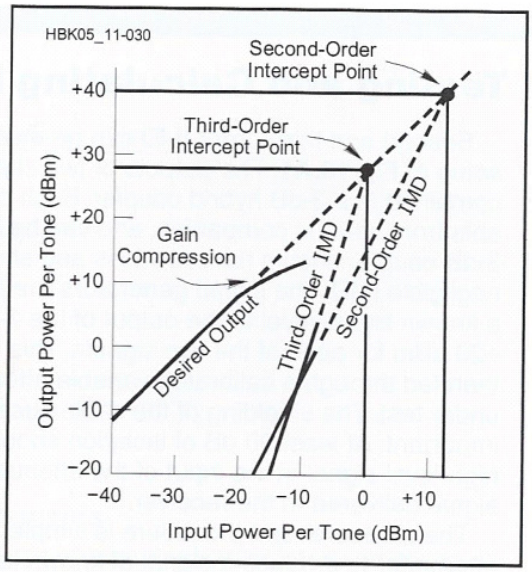

Figure 1: Plot of IMD & Intercept

It became common practice to build a two frequency signal generator with equal level signals to drive the input of the amplifier or mixer under test and measure the output primary and IMD signals with a spectrum analyzer or tunable wave analyzer. Any good engineer of the day would then plot his data on linear graph paper in his favorite units of dBm for receivers or dBw for transmitters and after a little extrapolation his chart would look like Figure 1. The cross over points of the desired fundamental response and the IMD plots be-

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Leap on through the wind. Leap on through the rain, etc. Yes our great radio club, the South Jersey Radio Association is closing fast on that five score mark – its 100th Anniversary.

Leap Years Specials During a Non-Leap Year Part 11

Mary, KV2M— SJRA Historian

2008

Our leaders to start off our 92nd year were:

President – Shawn MacDonald, K2SMD
Vice President – Ken Botterbrodt, K2WB
Treasurer – Rick Stoneking, W2RDS
Rec. Sec. – Lou Priestley, N2HQL
Cor. Sec. – Ted Groke, W2TAG

Directors:

Joe Fisher, KC2TN
Ray Golley, N3RG
Mark O'Brien, K2AX
Jon MacMillan, W2MC
Jerry Parker, KC2JJT
Jim Vecchiola, KR2T
Al Witner, N3AVT

The Board voted to replace the coffee maker for meetings. Can you imagine meetings without coffee?

Yours truly (Mary, KV2M) started a column in Harmonics about our Fifty Nifty United States. I certainly did learn many interesting things about our Great Country.

Don, W2DUE, continued his monthly puzzles attempting to 'Stump the SJRAers'.

Tom, W2XQ, continued his 'On the Web' series.

Dusty Rhoads, ND3Q, became a Silent Key. Yours truly took all her upgrades courtesy of K2BL under Dusty Rhoads at the Franklin Institute in PA. That 20 WPM code nearly did me in.

The month of March saw a mega sized Harmonics. This Big Boy was printed on 11" x 8½" instead of the usual 8½" x 7".

Ken Weber, KC2SNV, (now N2UNI) was welcomed to SJRA.

Field Day 2008 was at Savitch's Field. The Lacrosse tournament is usually the week before Field Day but as luck would have it this year they both happened at the same time. That was is mega mess. We put that yellow and black warning tape up all over the place so that people would not step where they should not, such as on antennas, coax, etc., but apparently about 98 percent of the Lacrossers had no idea what yellow and black put up around an area means. Did you know that those colors – yellow and black – on the tape are the same colors as bees and mean 'Caution'? We had to guard our antennas and radio equipment from stomping feet the entire time. To add insult to injury, these interlopers had the nerve to use our K2AA potty. We were forced to lock it and someone on site had to take possession of the key. SJRA Field Day comes with so many unpleasant side effects such as rain, winds, thunder, lightning, blistering heat, mosquitos, and now those who ignore Caution tape and take over our potty. Never ask, "What Next'? Anyway in spite of everything K2AA scored 19,434 points and finished first in our 6A category and third overall.

June welcomed Alan, K3WWT, Roy, WB2EOD, his XYL, Dara, KC2THQ, and Manny and Nate Gonzalez – no calls yet. Jerry, KC2JJT, is the proud grandpa of these two young guys.

Our club received a box containing valuable history stuff from the son of one of our former president, Wally Brown, K1TQ, (former calls W1KIQ, and W2OQN). Better

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(SJRA Leaps** from page 6)

watch it Ken, this guy gave you some competition for most call signs.

Our scheduled program for the August meeting fell through and Harry Wolf, KC2THV, who had recently joined SJRA saved the day. He brought his recorder and asked members of our club questions about amateur radio. He edited the tape and his program aired on 'The Harry Wolf Show' during September. Yes folks, 'Vanna' has still got it. Sadly later during that year, Harry became a SK. We were fortunate to have him as a member of SJRA even for a short time.

Rick, W2RDS, got our ailing repeater working. The culprit was a broken connecter that apparently had been stepped on by unknown persons working in the shack under the water tower.

During October Paige O'Brien passed the Technician Test at the ripe young age of eight years and received the call KC2TZZ and became a member of SJRA. She is the daughter of Mark, K2AX, and Donna, W2DOB. Paige wanted her father's old call and is now known as N2PKP. Not satisfied with that Technician license she managed to earn her Extra Class license before she became a teenager.

A Correction was brought to my attention. During past Leap Year Specials, I made a spelling error in one of our Board of Directors names. The correct spelling is Michael Fischbach, KB2RHI. Sorry about that Mike and thank you for bringing it to my attention. At least I know that someone reads my articles.

Our members are as diverse, but as beautiful as the colors in a rainbow and we

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Monthly Puzzle

Don—WA2DUE, wa2due *at* arrl *dot* net

Last months puzzles were as follows:

A regular polygon is defined as a shape in which all sides are of equal length. What is the angle between any two adjacent sides of a regular hexagon, Pentagon, or Octagon?

Solution: Imagine a center point to the figure and then draw lines from that-center point to the ends of a side of the polygon. You thus have an isosceles triangle and the angle at the center point is 360 degrees divided by the number of sides in the polygon. Subtracting this number from 180 gives the angle in degrees between adjacent sides. For the hexagon we get 180 -- 360/6 = 120 degrees. For the pentagon 180 – 360/5 = 108 degrees. For the octagon 180 – 360/8= 135 degrees,

A large national forest is triangular in shape. The height of this triangle is 15 miles longer than its base and the area is 125 square miles. Find the height and base of this triangle.

Solution: The area is equal to half of the base times the height. Therefore we have one equation A=b(b+15)/2 or b2 + 15b – 250 = 0. Solving this quadratic equation we find b = 10 and the height is 25 miles.

Mary, KV2M, and Fred, W2EK, submitted solutions. Thank you both.

For October let us consider the following:

You have a 2 micro henry coil and want to make a resonant circuit at a frequency of 21.1 megahertz. What size capacitor must you use?

(Continued on page 10)

Not a State Possessions

Part 3 – Johnston Island (Johnston Atoll)

Johnston Island or Johnston Atoll is one of the nine possessions of the United States.

An atoll is a ring-shaped coral reef that includes a coral rim which encircles a lagoon partially or completely. Reef building corals thrive only in tropical or subtropical waters. (In this next life, I am coming back as an atoll. No more snow.)

Johnston Island is a 1.03 square mile atoll in the North Pacific Ocean about 860 miles west of Hawaii and is about 4.7 times the size of the Mall in Washington DC. It may be the most isolated atoll in the entire world. There is no natural fresh water. It is actually comprised of four islands – Johnston Island and Sand Island are have enlarged natural features. North (Akau) and East (Hikina) are two artificial islands formed by coral dredging. Johnston Island is currently administered by the United States Fish and Wildlife Service. The time zone is UTC – 10.

The Atoll was sighted on 2 September 1796 when the American brig Sally accidentally grounded on a shoal near the islands. They were not officially named until 14 December 1807 when Captain Charles J. Johnston of the Royal Naval ship HMS Cornwallis saw them. It does not take a brain surgeon or a rocket scientist to figure out where the name came from. In 1858 William Parker and R. F. Ryan located guano on the atoll and in March 1858 claimed the island for the United States under the Guano Islands Act. The Guano (bird poop) Islands Act of 18 August 1856 allows citizens of the United States to take possession of islands containing guano deposits. The islands must not be occupied or under the jurisdiction of other governments. Both the United States and Hawaii had claimed the atoll. During June 1858 Samuel Allen on the Kalama tore down the U.S. flag and raised the Hawaiian flag. On 27 July 1858 the Island was declared to be part of the domain of King Kamehameha IV. Later that year the King revoked Allen's lease when he learned that the island had been previously claimed by the United States.

By 1890 the guano deposits had been depleted. Bye, bye birdie poop. In 1923 President Coolidge established Johnston Atoll as a federal bird refuge and put it under control of the U.S. Department of Agriculture. On 29 December 1934 President FDR transferred control to the U.S. Navy to establish an air station. In 1936 the Navy started to develop a base for seaplanes. During February 1941 Johnston Atoll became a Naval Defensive Sea Area and Airspace Reservation. Shortly after the Japanese attacked Pearl Harbor, the atoll was briefly shelled by Japanese naval units. An airfield was constructed and completed during 1941. On 1 November 1957 a United States Coast Guard station was commissioned on Sand Island. During the 1950's and 1960's Johnston Atoll was used as an American nuclear weapons test site – both above ground and underground nuclear tests. The atoll became contaminated with plutonium during nuclear weapons testing during 1962. The last of the chemical weapons were destroyed in 2000.

Amateur radio operators have transmitted from Johnston Island. It must have been quite difficult getting all that radio equipment onto that remote island. During the next SJRA Field Day set up and take down, I will remember that we could be doing it on

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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.

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 2-4 and SSB is November 16-18. 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 -Lou N2HQL is looking for nominations for the club awards. These are the Amateur of the Year and the Gorden Kressel award. To nominate someone 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.

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).

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

Session date: 09/11/2013

William J. Sager
6 Ford Lane
Berlin, NJ 08009
Earned his Tecnician License

John Doran, W2FDJ
113 Brace Rd.
Cherry Hill, NJ 08034
Earned his Extra License

Stephen J. Watt
3112 Markle St.
Norristown, PA 19403
Earned his Tecnician License

James L. Higgens, KC2SZ
1100 Edgewood Lane
Cinnaminson, NJ 08077
Earned his Extra License

Dominic A Sacca, KD2EPM
115 Hailey Dr.
Marleton, NJ 08053
Earned his Extra License

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(Encryption** from page **1)

for experimentation with encryption. I think that is an idea worth exploring.

What do you think? Does encryption have a place in amateur radio?

When he's not pondering FCC rules, Dan, KB6NU enjoys working CW on the HF bands and teaching ham radio classes. For more information about his operating activities and his "No-Nonsense" series of amateur radio license study guides, go to KB6NU.Com or e-mail cwgeek@kb6nu.com.

(***VE Testing*** from page 9)

Session date: 10/09/2013

Leslie E. Veit
24 Buckingham Drive
Southampton, NJ 08088
Earned his Technician License

Henry Brooks
1927 S. Alden St.
Phila., PA 19143
Earned his General License

	Tech	**General**	**Extra**
YTD	28	6	6

(Monthly Puzzle** from page 7)

A merchant buys a batch of gizmos for $6250 and sells all but 40 of these for $7130. He sells each gizmo for $3 above cost. How many did he sell?

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

(Ham Tech** from page 5)

came known as intercept points or IP_2 , IP_3 , IP_5 …… and were soon turned into linearity specifications. Note that intercept points can be referenced to either the input or the output of a device being tested. Usual practice is to reference the input for receivers and the output for transmitters. Since the order of the term defines the slope of each plot and the units are in dB, it became very easy to calculate the spurious free dynamic range of systems using components with known intercept points.

Next month we will learn how to use intercept points to do IMD calculations, add up IMD from more than one component and explore the impact of gain on the IMD of a receiver. In the third and final part of this series we will explore two commonly used receiver architectures and see why one has lower IMD products and is significantly better for working CW and SSB in high QRM environments.

(SJRA Leaps** from page 7)

blend together well. During the rain, it is the sunshine of our combined spirit that form that shining rainbow called the south Jersey Radio Association.

73 and I am History, Mary,KV2M

(Johnston Island** from page 8)

perhaps the most isolated atoll in the world and will not complain about the weather, bugs, or whatever other surprises come our way.

73 from the State of New Jersey, the QTH of SJRA, the oldest continually operating amateur radio club in the United States and the best.

Mary, KV2M

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

2013 Awards

It's that time again – awards season. Nominations must be submitted by November 23. The awards: the Harry Densham Award also known as the amateur of the year. Qualifications for this award are that the nominee must be a club member, normally for at least a year and have done something notable for the club or amateur radio in general. The Gordon Kressel Award is for someone who has contributed for a long period. Qualifications for this award are members with at least five years of club service over most of that period.

Nominations should be sent to Lou, N2HQL. They should include the name of the nominee and a list of reasons why that person is being nominated. They should be sent via e-mail to: N2HQL *at* comcast *dot* net. They may also be submitted by letter to Lou at: 7158 Chandler Ave., Pennsauken, NJ 08110. On November 27 the committee will meet and decide if any nominee qualifies and which nominee will receive the award. Late nominations will not be accepted, since the awards are ordered immediately after that date.

October Meeting

Fourth Wednesday

October 23, 2013

"Our Meetings are Smoke Free"

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:

Our program this month is about the new SJRA 40M Transmitter Kit with Mario Dianora, N2AK. At the club meeting Mario will be speaking about the theory behind the transmitter. We will not be building kits at the meeting but Mario will be taking orders for those who want to build them.

October 2013 Health and Welfare:

Happy Birthday to those celebrating in October: 18 – Burton Sampley, KC2OUC; 21 – Jim Vecchiola, KR2T; 28 – Bob Rutherford, WA4FRA; 30 – Ken Botterbrodt, K2WB.

Get Well Wishes go to: Jack Imhof, N2VW and Bruce Eichmann, W2BE. We're thinking of you!

Kathy Edwards, KM2KME

First Class Mail

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