



# CrossTalk

Issue 57:03

57 Years Of Service To Our Community

March 2016

## 2016 Club Officers

<b>President :</b>	<b>Jim Wright, N2GXJ</b>	<b>Trustees - 4 year term</b>	
<b>Vice President :</b>	<b>Cory Sickles, WA3UVV</b>	<b>Ray Martin, W2RM</b>	<i>(2014-2016)</i>
<b>Treasurer :</b>	<b>Al Arrison, KB2AYU</b>	<b>Brian Jones, KD2BXD</b>	<i>(2014-2017)</i>
<b>Recording Secretary :</b>	<b>Bob Fields, KC6AOH</b>	<b>Bob Demola, KD2GFL</b>	<i>(2015-2018)</i>
<b>Corresponding Secretary :</b>	<b>Ron Block, NR2B</b>	<b>Mark Gottlieb, WA2DIY</b>	<i>(2016-2019)</i>

### Board of Directors - 3 year term

<b>Dan Tremolini, N2TXG</b>	<i>(2014-2016)</i>	<b>Bill Price, NJ2S</b>	<i>(2015-2017)</i>
<b>John Zaruba Jr, K2ZA</b>	<i>(2014-2016)</i>	<b>Jeffrey Garth, KC2WCS</b>	<i>(2016-2018)</i>
<b>Chuck Colabrese, WA2TML</b>	<i>(2015-2017)</i>	<b>Chuck Lanard, KD2EIB</b>	<i>(2016-2018)</i>

### *This Month's Calendar...*

**General Membership Meeting**  
 Wednesday, March 2, 2016 @ 1930 Hours  
 Pfeiffer Community Center

**Tech Saturday Forum**  
 Saturday, March 5, 2016 @ 0900 Hours  
 GCARC Clubhouse

**VE License Testing Session**  
 Thursday, March 10, 2016 @ 1900 Hours  
 Franklin Township Public Library  
 Gary Reed, N2QEE  
[glreed49 <at> verizon <dot> net](mailto:glreed49@verizon.net)

**Board of Directors Meeting**  
 Wednesday, March 16, 2016 @ 1900 Hours  
 GCARC Clubhouse

**GCARC 2M Ragchew Net**  
 Thursday, March 17, 2016 @ 2000 Hours  
 147.180 MHz Repeater

**GCARC 11:00 AM Brunch**  
 Every Friday @ The Seven Star Diner  
 1890 Hurffville Road, Sewell, NJ

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# President's Message



With three hundred and sixty six days in this year, that day has finally come. Happy Leap Day, ya'll! For those in retirement, it's just another day in paradise. For those that get paid by the hour can smile; those on salary, your boss should thank you!

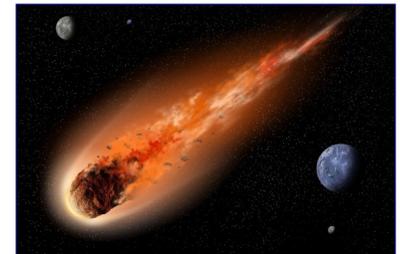


March kicks off with our club meeting on March 2, where former club president, and now County Radio Officer and ARES Emergency Coordinator for Camden County, Tom Gorman (KE2ES), will be our guest speaker for the evening. It should be a very interesting presentation.

The need for emergency preparedness can manifest itself in many forms. While typing this, I am watching a large brush fire in Westville being covered on local TV. If it wasn't for a favorable wind direction, many houses would be threatened. We are reminded that emergency preparedness is about not knowing when things can change in an instant.



As readers of this newsletter, you're likely to know a thing or two about space weather. One of my favorite websites to track this is [www.spaceweather.com](http://www.spaceweather.com). Ever hear of potentially hazardous asteroids (PHAs)? I'd guess most people probably haven't. That web page features a chart of the known ones that are predicted to buzz our planet each month. The next known one predicted to "near miss" will pass on Saturday, March 5. Apparently, new ones are being discovered all the time. How not reassuring!



I'll be raising a glass this St. Patrick's Day to toast continued future misses!

But enough of that. Let's turn our thoughts to radio and warmer weather! The ARRL is sponsoring a 48 hour SSB DX Contest the weekend of March 5-6. The PODXS 070 club is having a members-only PSK31 mode St. Patrick's Day contest (adult beverages optional). There's still enough time to join if want to get in on this digital contest March 12 ([www.podxs070.com](http://www.podxs070.com)).

Closer to home, John Zaruba (K2ZA) will have a hands-on class in coax connector soldering on the morning of March 5 as part of Tech Saturday Forum out at our Clubhouse.

Bill Price (NJ2S) is organizing our next radio direction finding fox hunt outing. Everyone is encouraged to give it a try. It has been a while since our last one – and they can be lots of fun.

*President's Message - Continued on page 3*

What about Field Day? Preparations have started now for that too. Al Arrison (KB2AYU) is organizing our Field Day activities scheduled for the weekend of June 25-26 this year. This is a whole-club activity. Reserve the date and stay tuned for some new innovations Al's looking to bring to the show this year.

What about a summer picnic? Yes, indeed! Jennifer Robinson (KD2EYR) did a fantastic job last year, and has volunteered to do it again this year. Thank you Jennifer! Expect an announcement soon for the date and location.

What about the Hamfest? Yes! Get the word out! The second Sunday in September, September 11, 2016, is the date for the GCARC Hamfest out at the 4-H Fairgrounds. GCARC is proud to host this major event that so many in our tri-state area look forward to each year.

In other news, if you're looking to upgrade to Amateur Extra, be advised that the current question pool expires at the end of June this year. Go to the Get Your Ham Ticket page on our website for the current question pools and the new Extra exam question pool that starts on July 1, 2016.

And if you had not heard, our new 2 Meter antenna for the repeater has been moved into storage in the base of the tower site, just waiting for climber availability on a day with good weather for installation. Will keep you posted via email on any updates.

Good DX, and Happy Easter to all. Respectfully, Jim Wright, N2GXJ



## **March 12, 2016: The Luck of the Irish Fox Hunt** **By Bill Price, NJ2S**

*Faith n' Begorrah*, the first Fox Hunt for 2016 will be Saturday, March 12, 2016 @ 1000 Hours. The Fox will be hidden somewhere in Gloucester County.

Dust off your handheld and get ready to hop in the car for some RDF fun here in Gloucester County. What's a 'foxhunt' you ask? Glad you did! It's nothing but a family friendly driving, navigating, and radio direction finding skills activity all in one. Just check out the links from previous GCARC Fox Hunts from the tab on our website to learn more.

If you want to set up a channel on your radio in advance, the hidden transmitter will operate on the generally recognized fox hunt simplex frequency of **146.565 MHz (FM)**. When you get close, you can probably also hear it on **439.695 MHz (the third harmonic)** as well.

To hear an audio clip of what the transmitter sounds like, go to our website under GCARC Fox Hunts, Fox Hunt VIII page. It transmits a 22 second musical tone plus the club callsign, pauses for 10 seconds and repeats.

Tune in at 1000 Hours on our 147.180 MHz repeater to check-in so we know who is hunting, and then get instructions on how to find the fox. From that point on, use signal strength, or whatever technique suits you best to find the hidden transmitter. If any teams are still searching after an hour, we'll start giving out better clues. If any are still hunting after an hour and a half, we'll walk you in so that we can all meet up at the transmitter's location to exchange hunt stories and a good laugh. Happy hunting!





## Best Down Jersey DX Picks - March 2016

By Bill Grim, W0MHK

CALL	DATES	HIGHLIGHTS	DIFFICULTY (5=MOST RARE)	ENTITY
T32	03/01 - 03/16	Big Effort!/Many Band & Modes	2	East Kiribati
4S7	03/02 - 03/18	10 DL OPS/40-6M/Many Modes	3	Sri Lanka
TX7EU	03/03 - 03/15	2 Stations/40-10M/Many Modes	2	Marquesas Island
3C7GIA	03/04 - 03/13	Rare/10-10M/Many Modes	4	Equatorial Guinea
3DA0	03/08 - 03/15	FB OPS!/Focus Low Bands	3	Swaziland
GD4SKA	03/15 - 03/23	80-10M/SSB, RTTY	2	Isle of Man
VK9CK	03/15 - 03/26	80-10M/Focus: All Time New Ones	4	Cocos/ Keeling Island
VK0EK	03/20 - 04/10	Big Effort!/Very Rare!	5	Heard Island
XW7FG	03/29 - 04/04	Focus on High Bands	4	Laos
FT4JA	03/31 - 04/14	French DX Blast/Rare!	5	Juan De Nova Island

Credits : NG3K Announce DX Operations : [www.ng3k.com/Misc/adxo.html](http://www.ng3k.com/Misc/adxo.html)



### Tech Saturday Forum : March 5, 2016

By John Zaruba Jr, K2ZA

0900 to 1200 Hours

#### How to install coaxial cable connectors



The theme of this month's forum will be how to install coaxial cable connectors. Bring your coax cable and connectors and John will show you how to strip the coax and solder them.

The objective of the Tech Saturday Forum is to have an open discussion of subjects of Amateur Radio interest. All questions are welcome as well as a venue for members to show off their latest ham radio projects or gadgets. All are welcome - hams and non-hams - club members and non-club members. Take a guided tour of our clubhouse. View our HF and VHF/UHF Operation Facilities and our vast antenna farm.

The Tech Saturday Forum is held on the Saturday after the General Membership meeting. For more information, go to [www.w2mmd.org](http://www.w2mmd.org) on the Tech Saturday Forum page.



## Field Day 2016

By Al Arrison, KB2AYU

Greetings GCARC members, I will be Field Day Chairman for 2016 and I want to get started on planning well in advance. This year we are going to try some new things to maximize our score and minimize interference.

These include:

- **Station physical layout on the grounds.**
- **All rigs checked with a spectrum analyzer for “cleanliness”.**
- **Use tuned coaxial stubs to notch harmonics.**
- **All stations properly grounded.**
- **Help with obtaining and erecting good performing Field Day antennas.**

As you may know, it is hard enough to have 2 stations on one band (CW and SSB), adding a 3<sup>rd</sup> (digital) is not really possible without alternating with either the CW or SSB station on that band. The workhorse bands are 80, 40, and 20 Meters. I would like to see a serious effort given on those bands. If you want to run 10 or 15 Meters that is fine, but with sunspots what they are, contacts will be limited unless you get a sporadic “E” opening. VHF and UHF bands are generally not worth the effort for the few local contacts that are available.

I am looking for band captains, especially for the “workhorse” bands 80, 40, and 20 Meters. Band captains are responsible for supplying the equipment and operators for their band/mode. I want to know what rig you will be using and what antenna you are considering. The band captains will be looking for operators to help keep their stations on the air for as much of the 24 hour period as possible.

So far I have:

- **Darrell Neron, AB2E: 80 CW (also 15 CW and 10 CW if unclaimed).**
- **Mark Gottlieb, WA2DIY: 40 SSB or 80 SSB.**

**Important!** This event is for everyone. I do not expect everyone to be a seasoned contester. I would like to see as many Club members as possible come out, operate, observe, learn, and have fun.



## March 2, 2016 General Membership Meeting Program

By Tom Gorman, KE2ES

My presentation will cover New Jersey State Police (NJSP), Office of Emergency Management also called NJOEM and how it interfaces with County and Municipal Government in times of disaster. I will also touch on how NJOEM coordinates with FEMA when the President signs a disaster declaration, for example Superstorm Sandy.

Joining me will be Art Arnold, N2CPR, from Cherry Hill and Deputy Radio Officer and Emergency Coordinator for Camden County. Art will give an overview of the importance of Preparing for Disasters, including ones' own family. Art will also touch on his volunteer efforts over the past 10 years with MS-150 and the importance of volunteering. We will also touch on County RACES and its interface with NJOEM at NJSP Division Headquarters (Call Sign NJ2EM) in West Trenton.

# Field Day - June 25-26, 2016 - Band Chart

Band	Operator	Mode
2 Meters		Phone
		CW
		Digital
6 Meters		Phone
		CW
		Digital
10 Meters		Phone
	Darrell Neron, AB2E	CW
		Digital
15 Meters		Phone
	Darrell Neron, AB2E	CW
		Digital
20 Meters		Phone
		CW
		Digital
40 Meters	Mark Gottlieb, WA2DIY	Phone
		CW
		Digital
80 Meters	Mark Gottlieb, WA2DIY	Phone
	Darrell Neron, AB2E	CW
		Digital

## Dues are Due!

By Al Arrison, KB2AYU

I am currently collecting dues for 2016. Thanks to those who have already paid.

**The cutoff date for payment is the April 6, 2016 General Membership Meeting.**

Dues are currently \$20 and can be paid by cash or check in person, at the March or April meeting, or by mail at the Club P.O. Box. Sorry, there is no online payment at this time.



## Regional Hamfests and Events

**March 6, 2016** : Bergen Amateur Radio Association Annual Auction, Westwood Regional High School, 701 Ridgewood Road, Washington Township (Bergen County), NJ. [www.bara.org](http://www.bara.org)

**March 12, 2016** : Cherryville Repeater Association Hamfest and Technology Expo, North Hunterdon High School, 1445 Route 31, Clinton, NJ. [www.qsl.net/w2cra](http://www.qsl.net/w2cra)

**March 13, 2016** : Holmesburg Amateur Radio Club Pennsylvania Charter Day, 1300Z - 2300Z, 14.260 MHz, 7.200 MHz, Philadelphia, PA. [www.qrz.com/db/wm3pen](http://www.qrz.com/db/wm3pen)

**March 19, 2016** : Frederick Amateur Radio Club Fredfest, Independent Hose Company Fire Station, 310 Baughmans Lane, Frederick, MD. [www.frederickarc.org](http://www.frederickarc.org)

**March 19, 2016** : Trenton Computer Festival (oldest PC show in the world), The College of New Jersey, 2000 Pennington Road, Ewing, NJ. [www.tcf.pages.tcnj.edu](http://www.tcf.pages.tcnj.edu)

## Amateur Extra Question Pool Update

By Jim Wright, N2GXJ

If you are thinking of upgrading to Amateur Extra, be advised that the question pool is going to change July 1 of this year. Periodic changing of the question pools for each license class is not new. Technology, rules, and regulations continue to evolve over time, and thus so does the amateur radio service. All question pools are normally valid for 4 years, with staggering between the years of different class updates. For example, the current Amateur Extra pool is effective July 1, 2012-June 30, 2016. The current Technician pool is effective July 1, 2014-June 30, 2018. The current General pool is effective July 1, 2015-June 30, 2019. When the new Amateur Extra question goes into effect July 1, of this year, we can expect it to be valid until July of 2020 (4 years from now).

Should I try and upgrade now, or wait for the new test? The answer to that needs to be an individual decision. Looking at the new question pool (available for preview from the "Get Your Ham Ticket" tab on the left side of our [www.w2mmd.org](http://www.w2mmd.org) website), it would seem there are a few technically challenging new questions added. Buzz on the internet blogs are saying the following topics are drawing the most attention: solar weather/propagation (23 questions added), digital operation (12 questions added), software defined radio/digital signal processing functions (21 questions added). If this question pool is a little bit harder, it just means you'll have to study a bit more. Or upgrade before the end of June! If still undecided, maybe you'd like to try your luck on some of the new questions, later in this edition of Crosstalk?



**Last Man Standing Amateur Radio Club**

[www.facebook.com/KA0XTT](http://www.facebook.com/KA0XTT)



## January 2016 South Jersey Section Manager's Report

By Skip Arey, N2EI

Our Section currently has 1,290 Full Members and 34 Associate Members.

I am sorry I am running a few days late with this Section Report. I am doing a "down to the bare walls" remodeling of my office/ham station and it took me a few days to find all the parts to my computer under the piles.

Well, we survived our first big snow storm of the season. Thanks to all the Section members who stood by in the event of any local or statewide needs. Special thanks to Section EC Tony W2WCC and his folks for keeping the nets up and running. There was a declared State of Emergency by the Governor, but no RACES activation. Regardless, our Section was ready and up to the task. Well done all around!

The South Jersey DX Association ([www.sjdxa.org](http://www.sjdxa.org)) elected new officers for 2016.

President: Bob Schenck N2OO

Vice President: Chuck Weber W2CCW

Secretary: Steve Molo KI4KWR

Treasurer: Bob Pantazes W2ARP

The Delaware Valley Radio Association ([www.w2zq.com](http://www.w2zq.com)) hosted the 11th Annual BSA Merit Badge Day held at The College of New Jersey on January 9, 2016. The Hams provided instruction in radio theory and hands on HF, VHF and UHF radio operation to the Scouts as well as Radio Direction Finding. Professor Al Katz, K2UYH, spoke about the many opportunities in the field of engineering. The event was planned and lead by Gary Wilson K2GW. Participating HAMs included: John DeGood NU3E, Lance Weight KC2MTO, Bob Cardone KD2EIM, Don Wright AA2F, Hy Gold AB2VG, Joe Jesson KC2VGL, Gerry Jurrens N2GJ, Lloyd Price N2KPC, Rory Shaffer NJ3U, Mark Juza KC2TGM, Roger Ding KD2FDT, Stephen Gingo KB2RMS, and Jeff Griesemer WB2WCO.

Gloucester City Amateur Radio Club ([www.nj2gc.org](http://www.nj2gc.org)) MID WINTER HAMFEST, February 14, 2016, Sunday, Valentines Day. ARRL approved. New location: Brooklawn Memorial American Legion Hall, 11 Railroad Lane, Brooklawn, NJ. Parking for about 200 vehicles. Hall space about 10,000 square feet. Handicap accessible. Vendor/seller set up at 6:00 AM. Doors open to all at 7:00 AM. Entry donation: \$5.00, Tables (8'): \$8. Door prizes and testing.

Well known Southern NJ Section Ham and Educator Urb LeJeune W1UL has developed a new Ham Radio Test Preparation system called "Ham Cram". He'll be discussing it at the February 2nd Meeting of the Old Barney Amateur Radio Club and also at the Holiday City ARC meeting on March 4th. He is willing to speak at any of our Section Clubs that are interested in this new tool for becoming a licensed Amateur Radio Operator. You can also learn more at: [www.ham-cram.com](http://www.ham-cram.com).

Former Atlantic Division Director, and good friend of the SNJ Section, Kay Craigie N3KN is stepping down as ARRL's President. Kay is being replaced by Rick Roderick K5UR. We wish Kay all the best and a well-earned rest (with maybe a little more time on the radio as well.)

Another big change at ARRL HQ is the announcement that Dave Sumner K1ZZ is stepping down as ARRL CEO and that role is going to Tom Gallagher NY2RF.

*SNJ Section Report - Continued on page 9*

Field Day is coming up June 25 - 26. It's never too early to get the plans in place. I hope to once again visit as many of the active Field Day sites in the Section. This year, maybe without so much rain perhaps?

NJ Senator Jeff Van Drew will be attending the Monthly Meeting of the Southern Counties Amateur Radio Association ([www.k2br.com](http://www.k2br.com)). The meeting is Thursday, February 11th, 7:30 PM at the Tony Canale Training Center, 5033 English Creek Avenue in Egg Harbor Township. I'd like to encourage and invite all members of the Section to come out to this event.

New Hams in our Section for this month include:

Tim E Tonnesen, KD2JYF  
Catherine A Rant, KD2JWX  
Ryan J Ginter, KD2KBC  
Matthew D Perri, KD2JYH  
Brian P Emenheiser, KD2JYG  
Joseph Dimauro, KD2KCD  
Michael H Darling, KD2JWW  
Stephen Yanusz, KD2KBY  
Kevin Mckenna, KD2JZX  
Thomas J Thurlby, KD2KBS

License Upgrades in our Section for this month include:

George J Simko, WA2WES to General  
Terance J Schuh, KD2JTK to General  
Richard S Dayton, KD2FND to Extra  
Henry A Bucci, KD2JVG to Extra  
Francis M Boehm, KC2YKD to General  
Daniel P Chokola, KD2HSG to Extra  
Jerry S Taylor, KC2KOJ to General

**73 de SKIP N2EI**

**ARRL Southern New Jersey Section**

**Section Manager: T J Arey, N2EI**

**[n2ei@arrl.org](mailto:n2ei@arrl.org)**



[www.facebook.com/W2MMD](http://www.facebook.com/W2MMD)



**QST de W1AW**  
**ARRL Bulletin 7 ARLB007**  
**From ARRL Headquarters**  
**Newington CT February 23, 2016**  
**To all radio amateurs**

**SB QST ARL ARLB007 FCC Invites Comments on ARRL Petition That Seeks 80/75 Meter Adjustments**

The FCC has put the ARRL's January Petition for Rule Making (RM 11759 - found on the web at: <http://apps.fcc.gov/ecfs/comment/view?id=60001374190>) on public notice and invited interested parties to comment on what the League has called "minimal but necessary changes" to 80 and 75 meters. The ARRL petitioned the FCC to fix a "shortfall in available RTTY/data spectrum" that the Commission created when it reapportioned 80 and 75 meters 10 years ago.

The League's petition asked the FCC to shift the boundary between the 80 meter RTTY/data subband and the 75 meter phone/image subband from 3600 kHz to 3650 kHz. The proposed change received strong support from ARRL members, and the ARRL Board of Directors adopted it as policy at its July 2015 meeting. At that time the Board also agreed to seek RTTY and data privileges for Novice and Technician licensees within their current 15 meter CW subband, and to do the same on 80 meters, depending on the outcome of the 80/75 meter subband revision.

The petition asks the FCC to make the following changes to the Part 97 Amateur Radio Service rules, with respect to 80/75 meters:

- \* Modify the RTTY/data subband, so that it extends from 3500 kHz to 3650 kHz.
- \* Modify the phone/image subband, so that it extends from 3650 kHz to 4000 kHz.
- \* Make 3600-3650 kHz available for General and Advanced Class licensees, as was the case prior to 2006.
- \* Make 3600-3650 kHz available to Novice and Technician licensees for telegraphy - consistent with existing rules permitting Novices and Technicians to operate CW in the 80, 40, and 15 meter General and Advanced RTTY/data subbands.
- \* Modify the rules governing automatically controlled digital stations (ACDS), to shift the ACDS segment from 3585-3600 kHz to 3600-3615 kHz, consistent with the IARU Region 1 and 2 band plans.

According to the ARRL, the FCC R&O in Docket 04-140 released in 2006 departed substantially and without justification from the rules proposed in the FCC's so-called "Omnibus" Notice of Proposed Rule Making (NPRM), with respect to 75 and 80 meters. Among other actions, the resulting changes expanded voice privileges on additional frequencies in various bands, including 75 meters. The FCC shifted the phone/image subband from 3750-4000 kHz to 3600-4000 kHz, trimming the 80 meter RTTY/data subband from 3500-3750 kHz to 3500-3600 kHz and substantially changing "the entire dynamic of this band," the League said.

Although the Omnibus R&O had indicated that incumbent licensees would not lose any operating privileges, some clearly did, the ARRL has pointed out. The most substantial adverse effect of the "unexpected and vast expansion" of the 75 meter phone/image subband, the League said, was the elimination of access to 3620-3635 kHz by ACDS.

*ARLB007 - Continued on page 11*

The Omnibus R&O rule changes limited 80 meters to 3500-3600 kHz, and no longer authorized RTTY and data emissions above 3600 kHz. That the Omnibus R&O did not modify Part 97.221 of the rules to provide for ACDS "was clearly an oversight by the Commission."

After the FCC denied a subsequent ARRL Petition for Reconsideration, the Commission replaced the inadvertently deleted 3620-3635 kHz ACDS segment with 3585-3600 kHz.

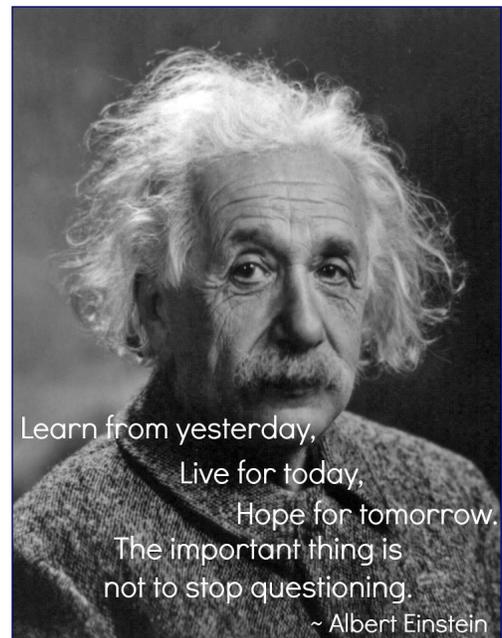
"Far from fixing the problem created by the error in the Omnibus R&O, the moving of the inadvertently deleted digital subband downward in frequency below 3600 kHz made the situation in the 80 meter RTTY/data subband even worse than it was," the ARRL said. The result has been a shortfall in available RTTY/data spectrum at 80 meters.

"ARRL has analyzed the regulatory limitations as part of a comprehensive effort to make more efficient the use of those HF allocations, especially with respect to encouraging further experimentation and proficiency in narrowband digital communications technologies," the League said in concluding its Petition. "The recommendations for modified band plans developed by ARRL necessitate the few, but important regulatory changes proposed."

*Article Credit: The American Radio Relay League, [www.arrl.org](http://www.arrl.org)*



**March 13, 2016 @ 0200 Hours**

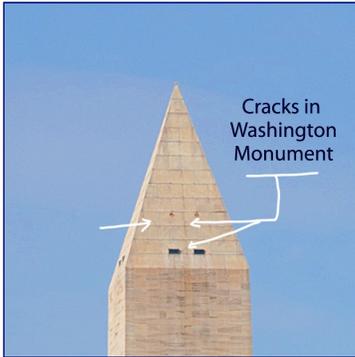


**Happy Birthday : March 14, 1879**

# Become an Earthquake Detector

By Jim Wright, N2GXJ

I was forwarded an article from the LA Times the other day. In it was described an innovative way in which technology from our increasingly connected way of life can be used to potentially save lives in ways we would not have dreamed of just five years ago - in this case to real-time detect earthquakes happening and deliver warnings to those that may be affected.



As you might recall, one of Washington DC's most popular sites, the Washington Monument, had been closed for nearly three years since a magnitude 5.8 earthquake in August of 2011 caused more than 150 cracks in the structure that had to be repaired. I'm not used to earthquakes here on the East Coast, but I



do remember a strange phenomenon during this one. One of my co-workers was on a conference call from King of Prussia, PA with a group in an office in the Virginia area. The call was interrupted when those on the other end of the

call said their office was shaking, and that they thought they were experiencing an earthquake. My co-worker thought that strange, and went out in the hallway to tell others about what was happening down in Virginia, and then our building started shaking. He says being on that phone call gave him an early warning, of sorts, though he didn't know what to do about it.

Skip ahead about five years to today. I'm told Twitter and Facebook get the word out pretty quick now, especially in California. It's natural for people to start typing on their cell phones as soon as they feel an earthquake coming on. However, there is now a free app for Android phones that can do it even better! The app's name is MyShake, and its purpose is simple – build a global seismic network of sensors for early warning based on crowd sharing of sensor data from thousands of cell phones. The objective is to reduce the damaging effects of earthquakes on us as individuals, and our society as a whole. Can this really be done? The scientists at Berkeley seem to think so!



How does it work? In short, the app runs silently in the background on your phone using very little power – similar to how a pedometer fitness app does to track your steps taken during the day. Any vibrations the phone experiences are sensed by the accelerometer built into the phone. Key to the technology is some smarts that sends an anonymous message to a centralized system when the shaking fits the vibrational pattern of an earthquake. A centralized computer system analyzes these data messages sent to it from hundreds of cell phones in near real time using advanced neural network processing (software) that has been developed to distinguish earthquakes from normal activities, to confirm the location and magnitude of the quake, and then to get the warning out to subscribers before the seismic waves have had a chance to propagate that far from the epicenter of where the automated cell phone reports were first coming in. The warning is received on all subscriber's cell phones, including those ahead of where the seismic wave has already traveled, offering them an opportunity to take necessary precautions to protect themselves before the earthquake shaking gets to them!

*Become an Earthquake Detector - Continued on page 13*

How fast do earthquakes travel? And how much warning might you get? Apparently it depends on the type of seismic wave, and the material it is traveling through, which kind of makes sense. Checking the USGS website, earthquakes are happening around the globe all the time, so there is considerable data on this. The P waves travel faster, but the S waves are usually 2-3 times larger, with the surface waves (L waves) the last to arrive, but often the strongest.

Drawing parallels to HF radio, where signals reflect sometimes multiple times off the ionosphere, from what I am reading, it looks like body waves can be direct and reflected, with several skip bounces inside the Earth, as seen by differences in time of arrival on seismograms. Drawing a parallel to the velocity factor of radio waves in different coax, which can have a wide range of speeds (e.g. from 0.66 to 0.95 the speed of light), the speed of seismic waves is affected by the material they pass through. So how fast do seismic waves travel (obviously not as fast as the speed of light, nor as slow as the speed of sound)?

Though seismic waves do not all travel at the same speed, a general “rule of thumb” that many seem to use is that they travel at between 4-8 km/second, which is about 3-4 miles per second (14,400 mph). Thus, if you are about 150 miles from where an earthquake was happening (as was the case for my co-worker in King of Prussia, PA while on the phone with a conference room of people in Virginia), you might get from a half minute, up to a 50 second advanced warning before the seismic waves would make their way to you. So that’s how he had enough time to go out into the hallway to tell someone what he’d just heard before the ground started shaking where he was at!

Simply amazing! More details from web pages I found while researching this article can be found at:  
[www.latimes.com/local/lanow/la-me-ln-app-mobile-phone-detect-earthquakes-20160212-story.html](http://www.latimes.com/local/lanow/la-me-ln-app-mobile-phone-detect-earthquakes-20160212-story.html)  
<http://myshake.berkeley.edu>  
[www.shakingearth.blogspot.com/2009/01/lancaster-quake-how-fast-do-seismic.html](http://www.shakingearth.blogspot.com/2009/01/lancaster-quake-how-fast-do-seismic.html)  
[www.earthquake.usgs.gov](http://www.earthquake.usgs.gov)

Enjoy!



March 20, 2016 @ 0030 Hours

## GCARC VHF Station

By Al Arrison, KB2AYU

The GCARC VHF station was back on the air for a contest for the first time since January 2007. I operated the station for 2016 ARRL January VHF Sweepstakes the weekend of January 30-31. I hadn't intended on spending a lot of time in the contest, but I ended up operating for about 22 hours out of a total of 33 hours.

The reason for the many years off the air is two-fold. First, the VHF tower got blown down by a freak storm in March of 2008. It took several years before the tower and antennas were replaced. Second, in 2012, at about the time that the tower was replaced, the Club decided to replace the Clubhouse trailer. It took several more years to get the new Clubhouse finished and get the radio equipment and operating positions back in working order.

The GCARC VHF station is very competitive and operated with no problems during the contest. On 50 MHz, we have a Yaesu FT-847 running 100W to an M2 7 element 30 foot long Yagi at 55 feet. On 144 MHz, we have a Yaesu FT-736 to a brick amp running 200W to an M2 12 element 20 foot long Yagi at 80 feet. On 222 MHz we have a Yaesu FT-736 to a brick amp running 125W to an M2 15 element 23 foot long Yagi at 86 feet. On 432 MHz, we have a Yaesu FT-736 to a brick amp running 100W to an M2 28 element 21 foot long Yagi at 90 feet. We also have tower top mounted low noise receive preamplifiers from SSB Electronic on 144, 222, and 432 MHz.

The only "problem" I had was that the 50 MHz station is in the HF room because the 50 MHz antenna is on the HF tower. So, I had to run from one end of the trailer to the other quite a few times during the contest. I think I probably logged several miles during the contest.

I would like to get interested Club members to come out and participate in one of the upcoming VHF contests in the multi-operator class. It is a way to try out contesting at a much less frantic pace than HF contesting.



## Update on Pitman repeater site

By Jim Wright, N2GXJ

As you know, we are in the process of major updates to our repeater systems at the Pitman water tower site. This transition started with the replacement of our older analog systems with new dual mode analog/digital capable System Fusion machines. In November, engineers from Tekk Comm Communications performed a comprehensive on-site site repeater and antenna system survey and diagnostics, inclusive of testing the antenna systems, filtering, cabling, and receiver sensitivity. A technical report detailing the findings was delivered to GCARC, which we published to share with the general membership in the December edition of Crosstalk. We discussed the findings from the report at the December general membership meeting, and then developed an action plan to proceed with implementation of the recommendations.



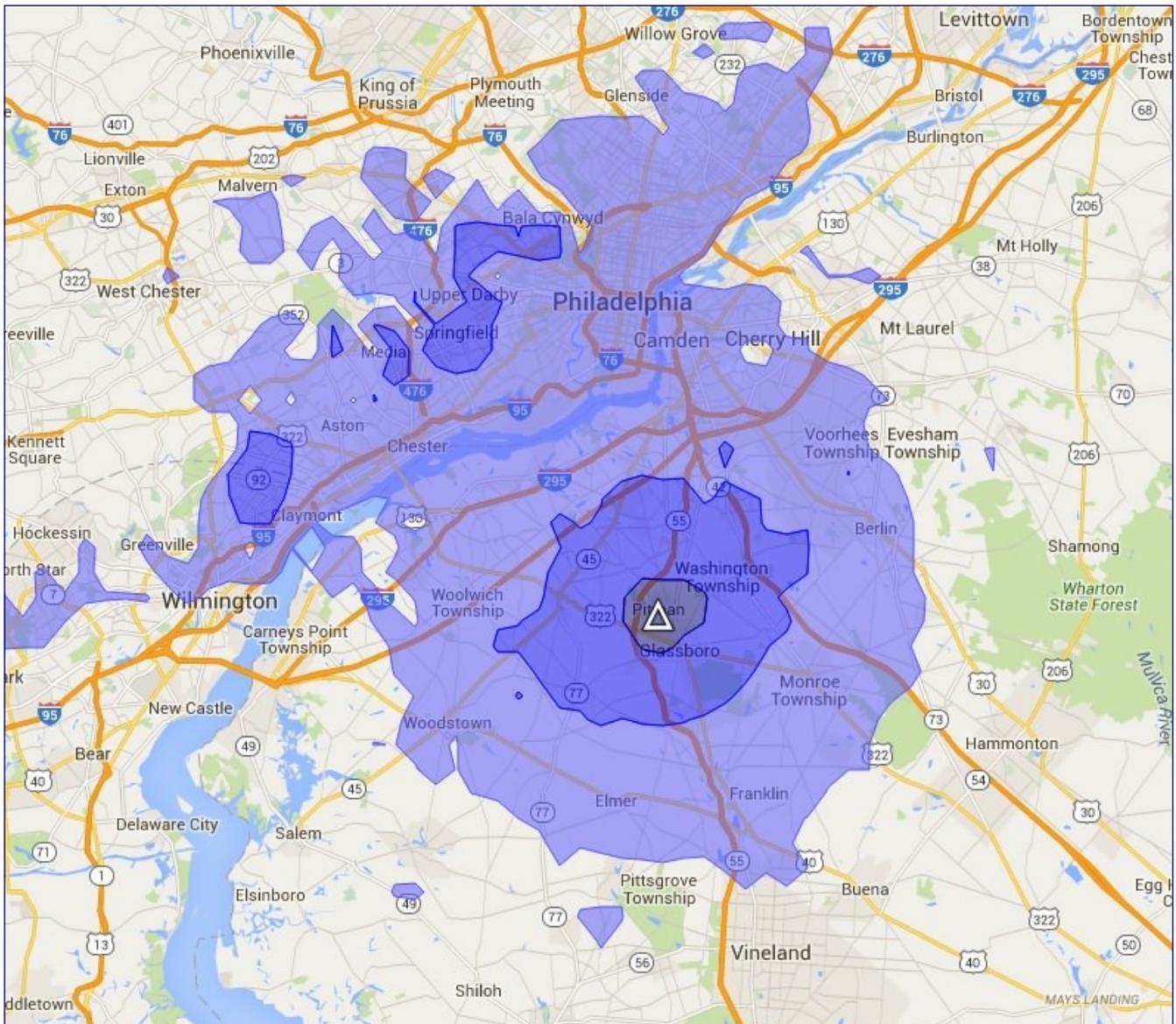
Since then, we have corrected the electrical wiring with conduit, replaced the prior duplexer, replace all transmission line jumpers with proper connectors installed, mounted the equipment properly in a 19 inch equipment rack on a new ground pad, and installed proper grounding to all related equipment. Field measurements show a marked improvement in performance already, and that is without yet having replaced the antenna. That is next on the list. We have purchased the replacement antenna for 2 meters, and it was received at Tekk Comm's office. Recently, we re-located the antenna from Tekk Comm office to storage inside the base of the Pitman tower, in preparation for its installation. We are now waiting on the climber's availability, and favorable weather, to do the top-side installation. The intention is take down the old antenna and put up the new one all in the same day, without impacting the Sunday SKYWARN and ARES nets.

So, how is our current coverage, even before the new antenna gets installed? There are 'before and after' measurements taken with variable output powers from fixed locations showing a noticeable improvement in receiver sensitivity. There are anecdotal reports of hand held transmitter users now being able to get in from locations where formerly they were not able to. And there is a library of over-the-air audio recording taken of various nets before and after the work that has been done that can be analyzed for comparison. However, as they say, "your mileage may vary". Among other things, your antenna height, transmitter power, distance, and the ground topography and how many building or trees there are between your location and Pitman tower site are all going to make a big difference in how well, or if at all, you are going to make it into the repeater.

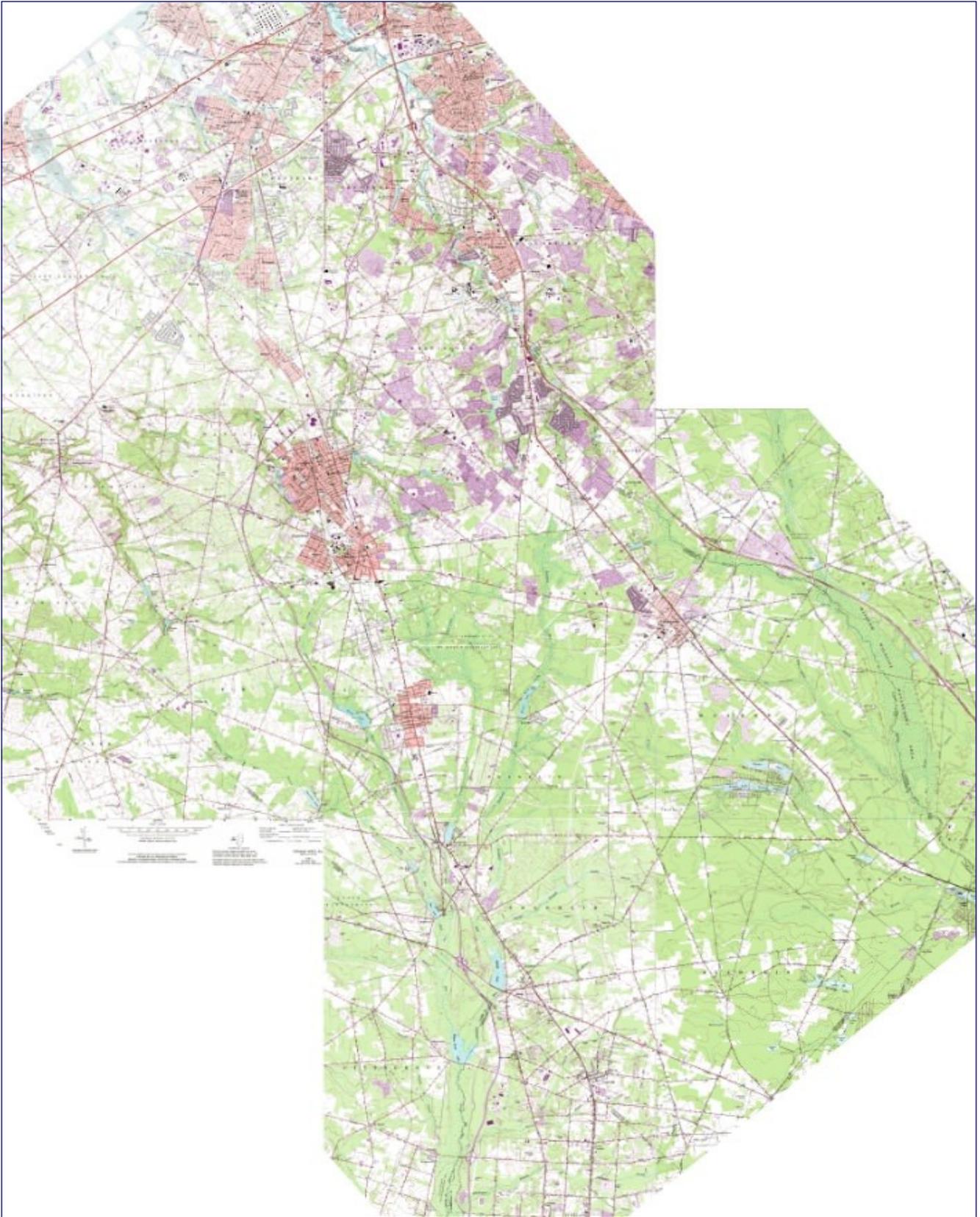
As the saying goes, your antenna height is likely to make the biggest difference on 2 meters. If you live in a low-elevation area, or if there is a hill or other obstruction between you and the repeater site, it is going to make a big difference in determining if you are going to get in on an HT or not. From certain locations, particularly in the southern part of the county, in the direction of Vineland, your only choice may be to use a roof or mast mounted antenna. Not believing me? Then let's take a look at a computer generated predicted coverage map for a person holding an HT, with the HT approximately 5 feet above ground, with the larger colored area in the output representative of trying to get into our repeater using a hand held radio, at 5 watts, with a rubber duck antenna. See Figure 1 on page 16.

*Pitman repeater updates - Continued on page 16*

The predicted coverage pattern is seen not to be symmetrical in all directions. Apparently, the ground elevation is not as constant and flat as we like to think it is here in Southern NJ! Surprisingly to me, predicted coverage from a hand-held into our repeater is actually quite good towards the North and Northwest, in the direction of the low lands around the Delaware River and up into portions of the state of Pennsylvania, and even towards the West Northwest, into portions of the state of Delaware. The predicted coverage for getting into our repeater holding an HT is not as broad reaching towards Vineland and the South. Even though ground elevations in Newfield and North Vineland are lower than those in Pitman, it would appear that the higher ground in Clayton, which is between Pitman and these lower grounds, might be blocking some of the line of sight, casting a “radio shadow” so to speak into some of these lower lying areas to the South. In general, if you find yourself outside the hand held coverage area, or in the fringe of the predicted coverage area, you might consider ways to elevate your antenna, to improve your chances of having a clear line of sight to the Pitman tower site.



**Figure 1 : Predicted coverage area for hand held radios attempting to access our 2 meter repeater**



*Figure 2 : USGS Topography Maps can be used to study topography and line-of-sight from different locations to the Pitman water tower site*

## The Battle of the Hams - Part 2

By Bill Leonard, W2SKE (SK)

*Thank you, John Dilks, K2TQN,  
for submitting this story*

*This article originally appeared in Sports Illustrated, 30 June 1958 and is reprinted here by permission of Sports Illustrated and Norma Leonard, through the assistance of Larry Serra, N6AZE.*

Hams can operate in seven narrow ranges, the so-called 10, 11, 15, 20, 40, 80 and 160-meter bands where international DX is common. In addition other VHF and UHF bands are set aside for more or less local work. Hams can use either voice or code, the original and still popular dot-dash method of radio communications.

There is too little space on the highways of the ether for the great number of stations traveling on them. So the Ham at his own station has to contend with the problem of interference from other Hams, as well as the never-ending job of keeping his gear in workable shape. In the early TV days neither Ham equipment nor television sets were designed to keep the Ham signals from interfering. Now Ham techniques and equipment and TV receivers have improved to the point where television interference from amateurs is a steadily diminishing problem.

Actually, Ham radio (Ham is a 50-year-old corruption and contraction of amateur) is not simply one activity, but many. For the competitive, the rigorous contests are available. But just as all motorists aren't race drivers, so most Hams pursue quieter aspects of the hobby. For the tinkerer and do-it-yourself addict, there is equipment to put together, tear apart and put together again, equipment handsome enough and complicated enough to satisfy any sci-fi bug.

The gabber gets a chance to talk endlessly on the airwaves, and the listener can eavesdrop to his heart's content. It's not unusual for round-table Kaffeeklatsch QSOs to embrace a dozen Hams all on one wave length, but located on all six continents. English is the international Ham language. English, plus a set of pidgin abbreviations like OM for old man, hangovers from the all-code days when contractions were the natural result of attempts to speed up dot-dash conversations. Also Hams use some of the international "Q" signals, which translate, in any language, into key phrases. A QTH is a location; QRN is static. There is a little of the collector in us all. Hams carry the stamp dodge one better. For many of them it isn't enough just to have made contact with the remote Russian republic of Uzbek. Who would believe there was such a place? So every Ham has his own QSL, or confirmation cards, proof that the QSO (communication) took place. Cards from all 48 states earn a special Worked-All-States certificate. Even tougher is a DX Century Club award - confirmations from 100 countries. A couple of thousand Hams have this one, and a handful have cards from 275 countries, which are almost all there are. Another award (issued by the Ham magazine CQ) divides the world up into 40 artificial zones, and the trick is to get cards from Hams in all of them. Zone 23 is mostly tundra and Tibet, and Hams there are as rare as centerfielders. Robert Ford, an R.A.F. radio operator, put Zone 23 on the map, operating from a monastery for a few months eight years ago. Then he was captured by the Communists and became famous as a man who survived five years of attempted brainwashing and Red torture. When he was released in Hong Kong three years ago, the first Westerner to greet him was a British colonel. The officer was a Ham first and an Englishman second. He threw his arms around Ford and cried, "Thank God you're alive, Bob. I've been sweating out your QSL card for six and a half years."

Some Hams concentrate on message handling (two New Jersey high school boys have handled over 1,500 telephone patch relays for our Antarctica base personnel), others get their kicks out of Civil Defense work and still others use their sets only to keep in touch with one or two friends who are also Hams.

*The Battle of the Hams - Continued on page 19*

Just as strangers almost always start to converse in generalities, often inanities, so do Hams. The wonder is (and this is the secret thrill of the game) that you can talk at all, that the little black box you built yourself puts your voice and your mind's eye into the home and the consciousness of a human being who may be a missionary in the Congo, and undertaker in Sweden or a schoolboy in Uruguay.

Whoever he is you will call him by his first name, even if - and this has happened countless times - you are an Air Force mechanic and the other Ham is a four-star general. You will probably not know, and if you do you won't care, whether the lad with the outstanding signal on the high end of 20 Meters is tall or short, black or white, Democrat or Republican, Jew or Gentile. And any Ham can tell you something about the meaning, or lack of it, of national boundaries. The chances are the fellow he likes to talk to most lives a day's flight and a visa away. Through radio they are in his "shack" daily.

To this aficionado, who has been hamming for just a quarter century, and whose shacks have included an airplane over Addis Ababa, a chicken coop in Vermont, a movie house on Broadway and a hotel balcony in Haiti, the Ham DX contest is the hobby at its zestiest. The big one just concluded embraced four weekends in February and March - two weekends of 48 hours each for voice operators, two for CW (code) men. There is no law, except common sense, preventing a single operator from working all 48 hours all four weekends. Indeed the Hawaiian school teacher named Katashi Nose, whose call is KH6IJ, who is this year's champion, regularly does just that. Along with a Virginian (Vic Clark, W4KFC), Nose is just about the best all-round contest man. He builds his own equipment, including a set of huge antennas on towers he raised and climbs himself. He is equally adept at key or microphone. His endurance seems endless. Favored with a location comparatively close to the U.S., he regularly exchanges contest serial numbers and reports with 3,000 U.S. Hams in a single competition. He and Clark, year in and year out, are among the top scorers in the world.

The toughest grind is going it alone. The ARRL rules are very strict about single-operator participation. No one else may assist you in any way, either in keeping logs or repairing equipment and certainly not in touching the key or the mike. There is not much more than the honor system to support the operational rules, although there is a log check on contacts.

A milder version of most DX contest hamming, including this year's ARRL affair, is so-called multi-operator participation. Here, a group of Hams, prizing sleep more than honor, will get together and take turns operating one or more transmitters at a single chosen station. This is equivalent to joining a relay team, instead of going the mile alone. It's lots of fun, but hardly as demanding.

Perhaps the most elaborate multi-operator station extant is owned by Hazard (Buz) Reeves, K2GL, a superb technician, whose electronic know-how has paid off handsomely in business. He is president of half a dozen successful companies, all with radio overtones. A sizable section of his Tuxedo Park, NY. hilltop mansion and surrounding grounds is devoted to a Ham station deluxe. Dominating the landscape are two towers, loaded with antennas, both over 100 feet high. The antennas on the towers rotate - squirting the radio signals in favored directions.

The shack is a 30-by-35 upstairs room, dominated by three 1,000-watt transmitters, three top-quality receivers, a room-long workbench, tools by the hundreds, a tape recorder and special operating chairs designed for minimum back strain, in one of which this particular operator collapsed as utterly as if he had stopped a Robinson left hook, at the end of contests in the years when he used to go it all alone.

*The Battle of the Hams - Continued on page 20*

It was in this luxurious setup that we shared this year's ARRL contest. Reeves flew up from Florida to join six others for one weekend of high-speed contest fun. Reeves does little operating himself. His kicks come from keeping the maze of complicated equipment in operation. Most of the talking was done by Dick Dorrance, a New York advertising executive; Fred Capossela Jr., son of the noted track announcer; John Ryan, an Anaconda Copper heir, who regularly flies across the continent to operate from K2GL because he considers it the best station in the world; Gene Kern, chief of the New York office of the Voice of America; and David Rosen, a young radio announcer.

In the first half hour of the contest we touched all continents. Signals churned into receivers from Japan, New Zealand, Morocco, Portugal, Argentina and nearly every other nook that man has wired for electricity. Contest contacts are quick - an exchange of identifying reports, a time check, serial numbers, hello, goodbye, that's all. But there was time to find out that one of our first contacts was operating from a 1953 station wagon in the Argentine pampas.

Four hours on, four off was our schedule, and before the next day had gone we had worked a rare station in Sarawak, British North Borneo. One of the most unusual of all countries is tiny Kermadec Island, 500 miles off the coast of New Zealand. There is only one Ham there, and he operates on a band that usually carries just a few hundred miles. But with a lot of effort and the help of a New Zealand amateur, we made contact with him.

A DX contest score is arrived at by multiplying the number of contacts by the number of countries, working each station only once. But as you operate on a different band of frequencies you can contact the same station all over again for another multiplier. It's quite a trick to catch the same overseas station on all HF bands, in fact, not two stations in an average year manage to swing it. But luck was with us, and in a single four-hour period we talked to Bill Vrooman, HH2Z, who runs Haiti's International Country Club resort, on all seven bands.

The thrills piled up, but so did the problems. Sunday morning the rotation mechanism on one of the towers jammed. We operated at something like half-effectiveness, while Buz fixed it in two hectic hours. Toward the end of the contest a power transformer went west. John Ryan figured out a way to make a replacement spare do the job. Somewhere along the line we were inspired to fashion an extra antenna on the off-chance that it might be useful on a little-used frequency. It wasn't.

At the end of the weekend we had exchanged reports with 600-odd stations in exactly 100 countries, a creditable score, considering we had only participated one weekend out of two. It was far from a record. We had simply had our fun - enough to tire, but not exhaust.

But around the world, Veale in the Gaza Strip, Yoneda in Japan, Nose in Hawaii, and a hundred others who had gone it alone staggered red-eyed to their sacks, surfeited with DX. The voices of the whole earth ringing in their battered ears, vowing they would never go through anything like that again. And they won't. Not until next year, when it's DX contest time again.

**ARRL Ham Radio License Exam Practice Website**  
[www.arrlexamreview.appspot.com](http://www.arrlexamreview.appspot.com)

## Try Your Luck

By Jim Wright, N2GXJ

So, you want to be an Amateur Extra? Even if you are one already, how would you score on these ten questions, taken from the new (draft) Amateur Extra question pool, section “E7F DSP filtering and other operations; Software Defined Radio Fundamentals; DSP modulation and demodulation”?

(Answers appear on the Last Page)

### E7F01

What is meant by direct digital conversion as applied to software defined radios?

- A. Software is converted from source code to object code during operation of the receiver
- B. Incoming RF is converted to a control voltage for a voltage controlled oscillator
- C. Incoming RF is digitized by an analog-to-digital converter without being mixed with a local oscillator signal
- D. A switching mixer is used to generate I and Q signals directly from the RF input

~~

### E7F02

What kind of digital signal processing audio filter is used to remove unwanted noise from a received SSB signal?

- A. An adaptive filter
- B. A crystal-lattice filter
- C. A Hilbert-transform filter
- D. A phase-inverting filter

~~

### E7F03

What type of digital signal processing filter is used to generate an SSB signal?

- A. An adaptive filter
- B. A notch filter
- C. A Hilbert-transform filter
- D. An elliptical filter

~~

### E7F04

What is a common method of generating an SSB signal using digital signal processing?

- A. Mixing products are converted to voltages and subtracted by adder circuits
- B. A frequency synthesizer removes the unwanted sidebands
- C. Emulation of quartz crystal filter characteristics
- D. Combine signals with a quadrature phase relationship

~~

*Try Your Luck - Continued on page 22*

**E7F05**

How frequently must an analog signal be sampled by an analog-to-digital converter so that the signal can be accurately reproduced?

- A. At half the rate of the highest frequency component of the signal
- B. At twice the rate of the highest frequency component of the signal
- C. At the same rate as the highest frequency component of the signal
- D. At four times the rate of the highest frequency component of the signal

~~

**E7F06**

What is the minimum number of bits required for an analog-to-digital converter to sample a signal with a range of 1 volt at a resolution of 1 millivolt?

- A. 4 bits
- B. 6 bits
- C. 8 bits
- D. 10 bits

~~

**E7F07**

What function can a Fast Fourier Transform perform?

- A. Converting analog signals to digital form
- B. Converting digital signals to analog form
- C. Converting digital signals from the time domain to the frequency domain
- D. Converting 8-bit data to 16 bit data

~~

**E7F08**

What is the function of decimation with regard to digital filters?

- A. Converting data to binary code decimal form
- B. Reducing the effective sample rate by removing samples
- C. Attenuating the signal
- D. Removing unnecessary significant digits

~~

**E7F09**

Why is an anti-aliasing digital filter required in a digital decimator?

- A. It removes high-frequency signal components which would otherwise be reproduced as lower frequency components
- B. It peaks the response of the decimator, improving bandwidth
- C. It removes low frequency signal components to eliminate the need for DC restoration
- D. It notches out the sampling frequency to avoid sampling errors

~~

**E7F10**

What aspect of receiver analog-to-digital conversion determines the maximum receive bandwidth of a Direct Digital Conversion SDR?

- A. Sample rate
- B. Sample width in bits
- C. Sample clock phase noise
- D. Processor latency

**QST de W1AW**

**ARRL Bulletin 8 ARLB008**

**From ARRL Headquarters**

**Newington CT February 24, 2016**

**To all radio amateurs**

SB QST ARL ARLB008 FCC Seeks Comments on Petition to Grant Lifetime Amateur Radio Licenses

The FCC is seeking comments on a Petition for Rule Making (RM 11760 - available on the web at: <http://apps.fcc.gov/ecfs/document/view?id=60001333714>) that asks the FCC to grant lifetime Amateur Radio licenses. Mark F. Krotz, N7MK, of Mesa, Arizona, filed his request with the FCC last November. He wants the FCC to revise Part 97.25 of its rules to indicate that Amateur Radio licenses are granted for the holder's lifetime, instead of for the current 10 year term. Krotz noted that the General Radiotelephone Operator License (GROL) already is issued on a lifetime basis, and he maintained that not having to renew licenses would lighten the FCC's workload.

"It would be mutually beneficial for the FCC and Amateur Radio operators to update Part 97 to grant operator licenses for lifetime, Krotz said in his filing. "The FCC would benefit by reducing administrative costs."

In 2014 the FCC granted lifetime credit for examination elements 3 and 4, but applicants seeking relicensing under that provision still must pass examination element 2.

Individuals may submit comments (<http://apps.fcc.gov/ecfs/proceeding/view?name=RM-11760>) via the FCC's Electronic Comment Filing System (ECFS).

*Article Credit: The American Radio Relay League, [www.arrl.org](http://www.arrl.org)*



**May 2 - 6, 2016 - Tropicana Hotel, Atlantic City, NJ**  
[www.njepa.org](http://www.njepa.org)

## DA's and DIT's

**Gary Reed, N2QEE**, reports that the February 11, 2016 VE session had one candidate, resulting in one new Technician Class operator.

**Keith Waltman, W2ERP** : He is doing well at Genesis Healthcare Rehab Center in Voorhees.



Congratulations to **Brian Jones, KD2BXD**, who has been appointed to serve as Council President and Chair of the Executive Board of the Garden State Council of the Boys Scouts of America.

**Popular Science Magazine** has partnered with Google to offer their entire 140 year archive for free browsing. [www.popsci.com/archives](http://www.popsci.com/archives)

**The GCARC Summer Picnic** is scheduled for Saturday, July 23, 2016 at the Red Bank Battlefield Park in National Park, NJ.

### Silent Keys:

**Edward Egolf, WA2ZMS**, 87: Former club member in the late 1970s, formerly of Sicklerville, NJ, last resided in Florida.

**William Green Jr, AC2CU (KC2JKI)**, of Franklinville, NJ.



*"To the members of the Gloucester County  
Amateur Radio Club.*

*I wish to express my thanks to the many  
people who sent me get well wishes from the  
club.*

*At a time when everything seems down, these  
were a definite pick me up and I greatly  
appreciate it.*

*Club members are to be congratulated on their  
response to me during my convalescence.*

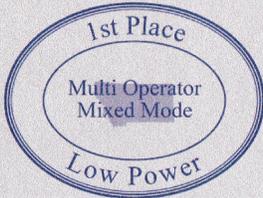
*As I can say is thank you, thank you, thank  
you.*

*Sincerely,  
Larry Scarpa, K1ON (WA2CVV, W2CVV)"*

*Thank you card sent to the club from Larry, K1ON*

# 2016 MONTANA QSO PARTY

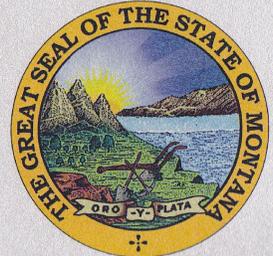
CERTIFICATE OF PARTICIPATION  
PRESENTED TO AMATEUR RADIO STATION



## N2CQ

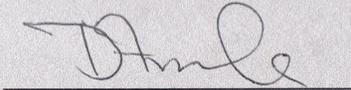
**Kenneth D. Newman**

*For helping promote Amateur Radio activity  
throughout Montana's 56 counties!*

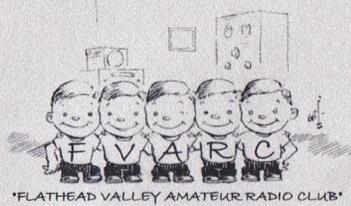


  
Lyndel Thiesen, N7LT, MT QSO Party Manager

1/26/2016  
Date

  
Dave Franke, K7DIF, MT QSO Party IT Manager

1/26/2016  
Date



CERTIFICATE CREATED BY LYNDEL THIESEN, N7LT



**Minnesota QSO Party  
February 6, 2016**

**Call: N2CQ  
Operator (s) : N2CQ  
Station: N2CQ**

**Class: Single Op LP  
QTH: SNJ  
Operating Time (hrs): 6  
Location: Out of State/Province**

**Summary: Compare Scores**

Band	CW-RTTY Qs	Ph Qs
------	------------	-------

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<b>160:</b>		
<b>80:</b>	<b>9</b>	<b>0</b>
<b>40:</b>	<b>28</b>	<b>0</b>
<b>20:</b>	<b>36</b>	<b>25</b>
<b>15:</b>		
<b>10:</b>		

---

**Total: 73                      25            Mults: 48  
Total Score: 9,408**

**Club: Frankford Radio Club**

**Comments:**

**Minnesota QSO Party  
February 6, 2016**

**Call: W2YC  
Operator (s) : W2YC  
Station: W2YC**

**Class: Single Op LP  
QTH: SNJ  
Operating Time (hrs): 5  
Location: Out of State/Province**

**Summary: Compare Scores**

Band	CW-RTTY Qs	Ph Qs
------	------------	-------

---

<b>160:</b>	<b>0</b>	<b>0</b>
<b>80:</b>	<b>19</b>	<b>0</b>
<b>40:</b>	<b>39</b>	<b>10</b>
<b>20:</b>	<b>34</b>	<b>20</b>
<b>15:</b>	<b>0</b>	<b>1</b>
<b>10:</b>	<b>0</b>	<b>0</b>

---

**Total: 92                      31            Mults: 58  
Total Score: 12,470**

**Club: Frankford Radio Club**

**Comments:**

**CQ WW RTTY WPX Contest  
February 13, 2016**

**Call: W2YC  
Operator (s) : W2YC  
Station: W2YC**

**Class: SOAB HP  
QTH: NJ  
Operating Time (hrs): 26  
Location: USA**

**Summary: Compare Scores**

Band	QSOs
------	------

---

<b>160:</b>	
<b>80:</b>	<b>151</b>
<b>40:</b>	<b>337</b>
<b>20:</b>	<b>355</b>
<b>15:</b>	<b>350</b>
<b>10:</b>	<b>109</b>

---

**Total: 1302    Prefixes: 625  
Total Score: 2,606,696**

**Club: Frankford Radio Club**

**Comments:**

**ARRL DX Contest, CW  
February 20, 2016**

**Call: W2YC  
Operator (s) : W0MHK, WK2G, KA2NDX, W2YC  
Station: W2YC**

**Class: M/2 HP  
QTH: NJ  
Operating Time (hrs): 41**

**Summary: Compare Scores**

Band	QSOs	Mults
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<b>160:</b>	<b>45</b>	<b>34</b>
<b>80:</b>	<b>203</b>	<b>69</b>
<b>40:</b>	<b>642</b>	<b>106</b>
<b>20:</b>	<b>1066</b>	<b>111</b>
<b>15:</b>	<b>1074</b>	<b>118</b>
<b>10:</b>	<b>183</b>	<b>75</b>

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**Total: 3213    513  
Total Score: 4,944,807**

**Club: Frankford Radio Club**

**Comments:**

## Regional Yaesu System Fusion Repeaters

County, State	Location	Callsign/Club	Frequency	Off-Set	PL Tone
Atlantic County, NJ	Atlantic City	K2ACY	449.625 MHz	Minus	156.7 Hz
Atlantic County, NJ	West Atlantic City	<a href="#">W2HRW/SPARC</a>	443.250 MHz	Plus	146.2 Hz
Camden County, NJ	Blue Anchor	KB2AYS	445.125 MHz	Minus	91.5 Hz
Camden County, NJ	Cherry Hill	NJ2CH	145.370 MHz	Minus	91.5 Hz
Camden County, NJ	Cherry Hill	<a href="#">K3RJC/HARC</a>	444.900 MHz	Plus	131.8 Hz
Camden County, NJ	Gloucester City	<a href="#">NJ2GC</a>	447.775 MHz	Minus	146.2 Hz
Camden County, NJ	Runnemede	WA2WUN	147.225 MHz	Plus	192.8 Hz
Gloucester County, NJ	Pitman	<a href="#">W2MMD/GCARC</a>	147.180 MHz	Plus	131.8 Hz
Gloucester County, NJ	Pitman	<a href="#">W2MMD/GCARC</a>	442.100 MHz	Plus	131.8 Hz
Mercer County, NJ	Lawrenceville	<a href="#">W2MER</a>	147.105 MHz	Plus	123.0 Hz
Mercer County, NJ	West Trenton	<a href="#">W2ZQ/DVRA</a>	146.670 MHz	Minus	131.8 Hz
Mercer County, NJ	West Trenton	<a href="#">W2ZQ/DVRA</a>	442.650 MHz	Plus	131.8 Hz
Ocean County, NJ	Manchester	<a href="#">WA2RES/OCARES</a>	145.170 MHz	Minus	131.8 Hz
Ocean County, NJ	Toms River	<a href="#">NJ2AR/JSARS</a>	448.625 MHz	Minus	141.3 Hz
Salem County, NJ	Pennsville	N2KEJ/SCRA	146.625 MHz	Minus	131.8 Hz
Bucks County, PA	Hilltown	<a href="#">K3DN/WARC</a>	443.950 MHz	Plus	131.8 Hz
Bucks County, PA	Sellersville	<a href="#">W3AI/RFHARC</a>	444.750 MHz	Plus	103.5 Hz
Bucks County, PA	Southampton	<a href="#">W3SK/PWA</a>	146.790 MHz	Minus	131.8 Hz
Bucks County, PA	Southampton	<a href="#">W3SK/PWA</a>	448.225 MHz	Minus	131.8 Hz
Chester County, PA	Paoli	<a href="#">WB3JOE/MARC</a>	445.675 MHz	Minus	131.8 Hz
Delaware County, PA	Lawrence Park	W3DI	447.375 MHz	Minus	100.0 Hz
Montgomery County, PA	Horsham	K3JJO/DRC	147.165 MHz	Plus	162.2 Hz
Montgomery County, PA	Wyndmoor	<a href="#">K3PDR/PDRA</a>	447.475 MHz	Minus	Open
Philadelphia County, PA	Philadelphia	<a href="#">WM3PEN/HARC</a>	146.685 MHz	Minus	146.2 Hz
Philadelphia County, PA	Roxborough	<a href="#">W3QV/Phil-Mont</a>	444.800 MHz	Plus	186.2 Hz
Kent County, DE	Dover	<a href="#">KC3ARC/KCARC</a>	146.970 MHz	Minus	77.0 Hz
New Castle County, DE	Newark	<a href="#">W3DRA/DRA</a>	146.700 MHz	Minus	131.8 Hz
New Castle County, DE	Newark	<a href="#">W3DRA/DRA</a>	449.025 MHz	Minus	131.8 Hz
New Castle County, DE	Wilmington	WA3UYJ	146.955 MHz	Minus	131.8 Hz
**Sussex County, DE	Lewes	W4ALT	443.550 MHz	Plus	156.7 Hz
Sussex County, DE	Millsboro	<a href="#">WS3ARA/SARA</a>	449.825 MHz	Minus	156.7 Hz
Sussex County, DE	Selbyville	<a href="#">WS3ARA/SARA</a>	147.015 MHz	Plus	156.7 Hz

*\*New entry or update as of this issue.*

*\*\*As of February 20, 2016: Repeater in testing mode.*

## March Birthdays

Congratulations to our members celebrating their birthday this month

**Carol Andrescavage KD2INR**  
**Mike Andrescavage N2ICV**  
**Ed Champion Sr N2RO**  
**Jeff Garth KC2WCS**  
**Mike Korejwo KB3HMR**  
**Steve Marrano KC2VNI**  
**Andrew Muenzenberger KF2AQ**  
**Paul Munzenmayer K2DX**  
**John O'Connell K2QA**  
**Bill Price NJ2S**  
**Todd Rush Jr W7STR**  
**Dave Strout Sr W2YC**  
**Mark Townsend W2OCY**  
**Daniel Tremolini N2TXG**  
**Gary Triplo KD2EBX**  
**Wayne Wilson WA2LET**  
**Jim Wright N2GXJ (President 2014, 2015, 2016)**  
**John Zaruba Jr K2ZA**

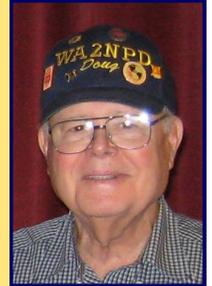
## In Memoriam March Birthdays

### Silent Keys:

Lawrence Archut Sr K2LMN  
James Casto Sr N2IMH  
Stuart Cleveland N2WUP  
Larry Ferrari WA2MKI

**Doug Gehring WA2NPD**  
(President 1967, 1975, 2008, 2009)

Edwin Kephart W2SPV  
Milton Marder WA2FGA  
James Mollica Jr K2OWE  
John Oberst W2TLO  
Harold Steelman W2BZI



## Crosstalk Submissions

*This is your Club newsletter. Make use of it.*

If you have stories or photos of your hobby that you would like to share with the Club, please do so!

We will keep covering all of the GCARC events, but it is also nice to get those personal perspectives to include in every issue.

Connecting through experiences is what makes the Gloucester County Amateur Radio Club a *REAL* club.

All submissions, queries, comments and editorials should be addressed to Jeffrey Garth, KC2WCS at [jeff.garth <at> comcast.net](mailto:jeff.garth@comcast.net).

Submission deadline for the April 2016 issue: Sunday, March 20, 2016

Club Website [www.w2mmd.org](http://www.w2mmd.org)

Club E-Mail Reflector: [gcarc@mailman.qth.net](mailto:gcarc@mailman.qth.net)

## March Contest Calendar

For more information on the contests, please go to the WA7BNM Contest Calendar website:  
[www.hornucopia.com/contestcal](http://www.hornucopia.com/contestcal)

### March 2016

+ AGCW YL-CW Party	1900Z-2100Z, Mar 1
+ QRP Fox Hunt	0200Z-0330Z, Mar 2
+ Phone Fray	0230Z-0300Z, Mar 2
+ CWops Mini-CWT Test	1300Z-1400Z, Mar 2 and 1900Z-2000Z, Mar 2 and 0300Z-0400Z, Mar 3
+ UKEICC 80m Contest	2000Z-2100Z, Mar 2
+ NRAU 10m Activity Contest	1800Z-1900Z, Mar 3 (CW) and 1900Z-2000Z, Mar 3 (SSB) and 2000Z-2100Z, Mar 3 (FM) and 2100Z-2200Z, Mar 3 (Dig)
+ NCCC RTTY Sprint	0145Z-0215Z, Mar 4
+ QRP Fox Hunt	0200Z-0330Z, Mar 4
+ NCCC Sprint	0230Z-0300Z, Mar 4
+ ARRL Inter. DX Contest, SSB	0000Z, Mar 5 to 2400Z, Mar 6
+ Wake-Up! QRP Sprint	0600Z-0629Z, Mar 5 and 0630Z-0659Z, Mar 5 and 0700Z-0729Z, Mar 5 and 0730Z-0800Z, Mar 5
+ Open Ukraine RTTY Championship	1800Z-2059Z, Mar 5 (Low Band) and 2100Z-2359Z, Mar 5 (Low Band) and 0800Z-1059Z, Mar 6 (High Band) and 1100Z-1359Z, Mar 6 (High Band)
+ UBA Spring Contest, CW	0700Z-1100Z, Mar 6
+ DARC 10-Meter Digital Contest	1100Z-1700Z, Mar 6
+ SARL Hamnet 40m Simulated Emerg Contest	1200Z-1400Z, Mar 6
+ RSGB 80m Club Championship, Data	2000Z-2130Z, Mar 7
+ ARS Spartan Sprint	0200Z-0400Z, Mar 8
+ QRP Fox Hunt	0200Z-0330Z, Mar 9
+ Phone Fray	0230Z-0300Z, Mar 9
+ CWops Mini-CWT Test	1300Z-1400Z, Mar 9 and 1900Z-2000Z, Mar 9 and 0300Z-0400Z, Mar 10
+ AWA John Rollins Memorial DX Contest	2300Z, Mar 9 to 2300Z, Mar 10 and 2300Z, Mar 12 to 2300Z, Mar 13
+ NCCC RTTY Sprint	0145Z-0215Z, Mar 11
+ QRP Fox Hunt	0200Z-0330Z, Mar 11
+ NCCC Sprint	0230Z-0300Z, Mar 11
+ Nauryz DX Contest	0800Z-1359Z, Mar 12
+ RSGB Commonwealth Contest	1000Z, Mar 12 to 1000Z, Mar 13
+ South America 10 Meter Contest	1200Z, Mar 12 to 1200Z, Mar 13
+ SKCC Weekend Sprintathon	1200Z, Mar 12 to 2400Z, Mar 13
+ Oklahoma QSO Party	1400Z, Mar 12 to 0200Z, Mar 13 and 1400Z-2000Z, Mar 13
+ AGCW QRP Contest	1400Z-2000Z, Mar 12
+ Stew Perry Topband Challenge	1500Z, Mar 12 to 1500Z, Mar 13
+ EA PSK63 Contest	1600Z, Mar 12 to 1600Z, Mar 13
+ TESLA Memorial HF CW Contest	1800Z, Mar 12 to 0759Z, Mar 13

*March Contest Calendar - Continued on page 30*

## March Contest Calendar

For more information on the contests, please go to the WA7BNM Contest Calendar website:  
[www.hornucopia.com/contestcal](http://www.hornucopia.com/contestcal)

### *March Contest Calendar - Continued from page 29*

+ QCWA QSO Party	1800Z, Mar 12 to 1800Z, Mar 13
+ Idaho QSO Party	1900Z, Mar 12 to 1900Z, Mar 13
+ North American Sprint, RTTY	0000Z-0400Z, Mar 13
+ UBA Spring Contest, 2m	0700Z-1100Z, Mar 13
+ NSARA Contest	1200Z-1600Z, Mar 13 and 1800Z-2200Z, Mar 13
+ Wisconsin QSO Party	1800Z, Mar 13 to 0100Z, Mar 14
+ WAB 3.5 MHz Phone	1800Z-2200Z, Mar 13
+ Bucharest Contest	1800Z-2059Z, Mar 14
+ CLARA Chatter Party	1700Z, Mar 15 to 1700Z, Mar 16 and 1700Z, Mar 19 to 1700Z, Mar 20
+ QRP Fox Hunt	0100Z-0230Z, Mar 16
+ Phone Fray	0230Z-0300Z, Mar 16
+ CWops Mini-CWT Test	1300Z-1400Z, Mar 16 and 1900Z-2000Z, Mar 16 and 0300Z-0400Z, Mar 17
+ RSGB 80m Club Championship, CW	2000Z-2130Z, Mar 16
+ NAQCC CW Sprint	0030Z-0230Z, Mar 17
+ QRP Fox Hunt	0100Z-0230Z, Mar 18
+ NCCC RTTY Sprint	0145Z-0215Z, Mar 18
+ NCCC Sprint	0230Z-0300Z, Mar 18
+ BARTG HF RTTY Contest	0200Z, Mar 19 to 0200Z, Mar 21
+ SARL VHF/UHF Analogue/Digital Contest	1000Z, Mar 19 to 1000Z, Mar 20
+ Russian DX Contest	1200Z, Mar 19 to 1200Z, Mar 20
+ F9AA Cup, SSB	1200Z, Mar 19 to 1200Z, Mar 20
+ Louisiana QSO Party	1400Z, Mar 19 to 0200Z, Mar 20
+ AGCW VHF/UHF Contest	1400Z-1700Z, Mar 19 (144) and 1700Z-1800Z, Mar 19 (432)
+ Virginia QSO Party	1400Z, Mar 19 to 0200Z, Mar 20 and 1200Z-2400Z, Mar 20
+ Feld Hell Sprint	1700Z-1859Z, Mar 19
+ UBA Spring Contest, SSB	0700Z-1100Z, Mar 20
+ Run for the Bacon QRP Contest	0100Z-0300Z, Mar 21
+ SKCC Sprint	0000Z-0200Z, Mar 23
+ QRP Fox Hunt	0100Z-0230Z, Mar 23
+ Phone Fray	0230Z-0300Z, Mar 23
+ CWops Mini-CWT Test	1300Z-1400Z, Mar 23 and 1900Z-2000Z, Mar 23 and 0300Z-0400Z, Mar 24
+ RSGB 80m Club Championship, SSB	2000Z-2130Z, Mar 24
+ QRP Fox Hunt	0100Z-0230Z, Mar 25
+ NCCC RTTY Sprint	0145Z-0215Z, Mar 25
+ NCCC Sprint	0230Z-0300Z, Mar 25
+ FOC QSO Party	0000Z-2359Z, Mar 26
+ CQ WW WPX Contest, SSB	0000Z, Mar 26 to 2359Z, Mar 27
+ Low Power Spring Sprint	1400Z-2000Z, Mar 28
+ Phone Fray	0230Z-0300Z, Mar 30
+ CWops Mini-CWT Test	1300Z-1400Z, Mar 30 and 1900Z-2000Z, Mar 30 and 0300Z-0400Z, Mar 31
+ UKEICC 80m Contest	2000Z-2100Z, Mar 30

Club Committees	
Standing Committees	Committee Chairs
<b>Membership</b> <b>Publicity</b> <b>Hamfest</b> <b>Repeater</b> <b>Hospitality</b> <b>Club Site</b> <b>Field Day</b> <b>Nominations</b> <b>Health and Welfare</b> <b>Budget</b> <b>Constitution and By-Laws</b>	<b>Cory Sickles, WA3UVV</b> <b>Cory Sickles, WA3UVV</b> <b>Sheldon Parker, K2MEN and Bill Price, NJ2S</b> <b>Michael Weldon, KB2UMJ</b> <b>Dave MacDonald, WB3JOY</b> <b>Al Arrison, KB2AYU</b> <b>Al Arrison, KB2AYU</b> <b>Jim Wright, N2GXJ</b> <b>Ray Martin, W2RM</b> <b>Al Arrison, KB2AYU</b> <b>Ron Block, NR2B</b>
Activity Committees	Committee Chairs
<b>ARES/RACES Emergency Communications</b> <b>Club Publications</b> <b>License Testing/VEC Liaison</b> <b>Programs</b> <b>Database/Roster</b> <b>Scout Liaison</b> <b>Historian</b> <b>Summer Picnic</b> <b>Foxhunts</b> <b>W2MMD License Trustee</b>	<b>John Zaruba Jr, K2ZA</b> <b>Jeffrey Garth, KC2WCS</b> <b>Gary Reed, N2QEE</b> <b>Cory Sickles, WA3UVV</b> <b>Jeffrey Garth, KC2WCS</b> <b>Frank Simila, KC2SJ</b> <b>Jeffrey Garth, KC2WCS</b> <b>Jennifer Robinson, KD2EYR</b> <b>Jim Wright, N2GXJ</b> <b>Darrell Neron, AB2E</b>

## GCARC@mailman.qth.net e-mail reflector guidelines

1. **No attachments** (e.g. pictures, files) are allowed on the reflector.
2. If you have club-related pictures that you would like to share, you can send them to the webmaster, he will put them on the website and he will send out a general e-mail to all the members.
3. Otherwise, the pictures will have to be sent to the members' addresses.
4. URLs/Hyperlinks are acceptable on the reflector.
5. Do not send any messages with e-mail addresses in the **BCC (Blind Carbon Copy)** field. The message will be rejected. Use only the **To:** or **CC:** fields.
6. Members are subscribed to the reflector using the member's e-mail address from the roster database. You must use that address when sending an e-mail via the reflector.
7. If you use another address on the reflector, the message will get rejected or "*bounced*", because the reflector does not recognize that address.
8. Whenever a message sent to reflector is rejected or "*bounced*" for various reasons, the administrator has to log-in to the Mailman.QTH website and approve the message. If the admin recognizes the address as belonging to a club member, the message is accepted and passed on to the reflector.

FYI...If you use Comcast e-mail, you are limited to 100 addresses per message.  
 For more information about the e-mail reflector, goto : [www.mailman.qth.net](http://www.mailman.qth.net)

### The W2MMD Repeaters

Output: 147.180 MHz  
Input: 147.780 MHz  
Offset: +600 kHz - PL: 131.8 Hz  
(Conventional FM plus C4FM Capability)

Output: 442.100 MHz  
Input: 447.100 MHz  
Offset: +5 MHz - PL: 131.8 Hz  
(Conventional FM plus C4FM Capability)

Output: 1284.400 MHz  
Input: 1272.400 MHz  
Offset: -12.0 MHz  
PL Tone: None

The above 3 repeaters are all  
located in Pitman, NJ  
GPS: 39.728481°, -75.131088°

Output: 224.660 MHz  
Input: 223.060 MHz  
Offset: -1.6 MHz  
PL Tone: 131.8 Hz  
Location: Sewell, NJ  
GPS: 39.781382°, -75.099963°

Temporarily Off The Air

### Area Repeater Nets

SKYWARN™ Net  
Sunday @ 1945: 147.180 MHz

Gloucester County ARES/RACES Net  
Sunday @ 2000: 147.180 MHz

### Meeting Calendar

#### *General Membership Meeting*

Wednesday, March 2, 2016 @ 1930 Hours  
Pfeiffer Community Center  
301 Blue Bell Road  
(Main Street and Blue Bell Road)  
Williamstown, NJ

#### *Board of Directors Meeting*

Wednesday, March 16, 2016 @ 1900 Hours  
GCARC Clubhouse  
Gloucester County 4-H Fairgrounds  
235 Bridgeton Pike (Rt 77), Mullica Hill, NJ

### March 2, 2016 Club Meeting

*Tom Gorman, KE2ES*

*FEMA and Amateur Radio*

Try Your Luck Answer key:

E7F01 (C)  
E7F02 (A)  
E7F03 (C)  
E7F04 (D)  
E7F05 (B)  
E7F06 (D)  
E7F07 (C)  
E7F08 (B)  
E7F09 (A)  
E7F10 (A)

*Dues Are Due!!!*