



# CrossTalk

Issue 58:01

58 Years Of Service To Our Community

January 2017

## 2017 Club Officers

**President :** Harry Elwell, K2ATX  
**Vice President :** Tony Otowski, W2WCC  
**Treasurer :** Al Arrison, KB2AYU  
**Recording Secretary :** Bruce Canino, KD2LBU  
**Corresponding Secretary :** Ron Block, NR2B

### Trustees - 4 year term

**Brian Jones, KD2BXD** (2014-2017)  
**Bob Demola, KD2GFL** (2015-2018)  
**Mark Gottlieb, WA2DIY** (2016-2019)  
**Bob Fields, KC6AOH** (2017-2020)

### Board of Directors - 3 year term

**Chuck Colabrese, WA2TML** (2015-2017)  
**Bill Price, NJ2S** (2015-2017)  
**Jeffrey Garth, KC2WCS** (2016-2018)

**Chuck Lanard, KD2EIB** (2016-2018)  
**Lee Marino, N2LAM** (2017-2019)  
**John Zaruba, K2ZA** (2017-2019)

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

#### **General Membership Meeting**

Wednesday, January 4, 2017 @ 1930 Hours  
Pfeiffer Community Center

#### **Tech Saturday Forum**

Saturday, January 7, 2017 @ 0900 Hours  
GCARC Clubhouse

#### **VE License Testing Session**

Thursday, January 12, 2017 @ 1900 Hours  
Franklin Township Public Library  
Gary Reed, N2QEE

#### **Board of Directors Meeting**

Wednesday, January 18, 2017 @ 1900 Hours  
GCARC Clubhouse

#### **GCARC 2M Ragchew Net**

Thursday, January 19, 2017 @ 2000 Hours  
147.180 MHz Repeater

***Dues Are Due!***

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## Tech Saturday Forum : January 7, 2017

By John Zaruba Jr, K2ZA

0900 to 1200 Hours

Happy 2<sup>nd</sup> Anniversary!

The discussion theme for this month is:

### *Raspberry Pi In The Ham Shack*

*Did you get a Raspberry Pi for a holiday present  
and not quite sure what to do with it or where to  
start?*

*Come on out to Tech Saturday to learn more...*



The Discussion Theme is a QSO starting point - a way to initiate a conversation. All Tech Saturday Forums are an open QSO of all 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 Monthly Wednesday Night General Membership meeting. For more information, go to [www.w2mmd.org](http://www.w2mmd.org) on the Tech Saturday Forum page.



## What's up for the 2017 Meeting Programs

By Tony Otlowski, W2WCC

As Vice President, one of my duties is to organize the programs for the meetings. I have a few lined up for this year already, but if there is something or someone you would like to see at a meeting, please let me know and I will try to make it happen.

So far, we have lined up:

- **January 4, 2017** - APRS...Beyond Position Data. Presented by John K2ZA, Chuck KD2EIB, Tony W2WCC, and Todd W7STR.
- **March 1, 2017** - The speaker will be Carver Washburn who is the Region 2 Director for Army MARS.
- **April 5, 2017** - We will have Jeff Fisher speaking about Linux in the ham shack.
- I have Dan Romanchik KB6NU lined up, but not sure which month yet. He is the author of the KB6NU's Ham Radio Blog that is featured in this publication and the "No Nonsense" Amateur Radio license study guides.

## January 4, 2017 General Membership Meeting

### *APRS...Beyond Position Data*

**Presented by John K2ZA, Chuck KD2EIB, Tony W2WCC,  
and Todd W7STR**



## Best Down Jersey DX Picks

January 2017

By Bill Grim, W0MHK

CALL	DATES	HIGHLIGHTS	DIFFICULTY (5=MOST RARE)	ENTITY
A70X	01/01 - 01/07	Team Effort/HF/CW, SSB, Digital	3	Qatar
8Q7AZ	01/02 - 01/11	40-10M/SSB	3	Maldives
XW4	01/03 - 01/21	2 DXpeditions! HF/CW, RTTY, Digital	4	Laos
V63	01/04 - 01/22	160-6M/CW, SSB, Digital	3	Micronesia
ZC4	01/11 - 01/25	80, 40, 20M/CW, SSB	2	British Cyprus Bases
E51AMF	01/11 - 02/06	160-10M/CW, SSB, RTTY	2	North Cook Island
T8	01/12 - 01/18	160-10M/CW, SSB, RTTY	3	Palau
YJ	01/20 - 02/23	JA Team/160-10M/CW, SSB, RTTY	3	Vanuatu
TU5MH	01/22 - 02/02	DL Team/80-10M/CW, SSB, RTTY	2	Ivory Coast
HI1UD	01/25 - 02/01	HI Team/160-10M/CW, SSB	1	Dominican Republic

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

### Straight Key Night

Every day is a good day to send CW, but January 1 is reserved for Straight Key Night. Enjoy CW as it has been sent and enjoyed since the earliest days of Amateur Radio.



This 24-hour (every January 1st from 0000 UTC through 2359 UTC) event is not a contest; rather it is a day dedicated to celebrating our CW heritage. Participants are encouraged to get on the air and simply make enjoyable, conversational CW QSOs. The use of straight keys or bugs to send CW is preferred. There are no points scored and all who participate are winners.



## **Southern New Jersey Section Manager's Report :**

### **November 2016**

**By Skip Arey, N2EI**

Our Section currently has 1,241 Full Members and 31 Associate Members

Operators needed for Skywarn recognition day on Saturday, December 3, 2016. Contact Tony at **w2wcc** **<at> arrl <dot> net** if you can help.

Thanks to the Gloucester County Amateur Radio Club (W2MMD) for donating \$200 to the ARRL Spectrum Defense Fund.

The Burlington County Radio Club (K2TD) held a Pizza Party this month. This Club regularly holds informal gathering like this. It is a great opportunity to bring non-ham family member together.

The U.S. Senate is in its "Lame Duck" Session ahead of their Holiday Recess. If you haven't let Senators Robert Menendez and Cory Booker know about your support for the Amateur Radio Parity Act, please contact them. We are so very close to getting this important piece of legislation over the top. You can register your support at: <http://www.arrrl.org/amateur-radio-parity-act>

#### **SNJ Section Club Station Field Day Results :**

- South Jersey Radio Association K2AA : 15,006 - 6A - 3,950
- Gloucester County Amateur Radio Club W2MMD : 7,886 - 6A - 1,750
- Old Barney Amateur Radio Club N2OB : 7,872 - 4A - 2,349
- David Sarnoff Radio Club N2RE : 3,098 - 7A - 371
- Burlington County Radio Club K2TD : 2,984 - 3F - 578
- Southern Counties Amateur Radio Association K2BR : 2,782 - 4F - 427
- Audubon Radio Club/Audubon OEM K2AUD : 2,604 - 3A - 748
- Cape May County Amateur Radio Club N2CMC : 2,222 - 3A - 351
- Thunderbolts Amateur Radio Club KB2OLT : 662 - 3A - 72
- Delaware Valley Ragchew Club N2HGX : 502 - 2A - 26

Thanks to the Burlington County Radio Club (K2TD) for managing the details and awards for the annual NJ QSO Party. Complete details about this successful event can be found on our Section Facebook Page.

#### **The ARRL is seeking nominations for the following awards :**

- The Hiram Percy Maxim Award
- The ARRL Herb S. Brier Instructor of the Year Award
- The ARRL Microwave Development Award
- The ARRL Technical Service Award
- The ARRL Technical Innovation Award
- The Knight Distinguished Service Award

*SNJ Section Report - Continued on page 6*

If there is someone in your Club or in our Section who might be deserving of special recognition, consider nominating them for these ARRL Awards. Details can be found at:

<http://www.arrl.org/news/arrl-seeks-nominations-for-six-awards>

Cape May County ARES/RACES will hold its 2016 annual meeting on Saturday, December 10, 2016 @ 1130 AM. The meeting will be held in the Operations Room at the County EOC, Basement of the Library, 30 West Mechanic Street., Cape May Court House, NJ.

As we close out this year, I want to thank everyone in the Section for their ongoing support for the Section Management Team. We have come a long way during this, my first term as Section Manager. I am humbled and honored that you have chosen me to continue on for another term. I am looking forward to visiting all the clubs and learning more about what you think will continue to make our Section successful.

Have a Happy Holiday Season however you celebrate it and a prosperous New Year with great DX.

#### **New Hams in our Section for this month:**

Ryan S DiGiovanni, KD2MAU  
William G Canfield, KD2MAG  
Amy E Kinder, KD2MAW  
Albert J Kinder, KD2MAX  
Walter W Chubb, KD2MAO  
Charles F Kowalski, KD2LZA  
John M Aitken, KD2MDB - General Class  
Martin J Jennings, KD2MCY - General Class  
Stephen Costello, KD2MAH - General Class  
Nicholas K Schafhauser, KD2MBW - General Class  
Michael S Chrysanthopoulos, K2MSC (ex KD2MBO)

#### **License Upgrades in our Section for this month:**

Stephen T Molo, KI4KWR to Extra  
James T Clark Sr, KA2OSV to Extra  
Dennis C Emerick, KD2JJF to General  
Larry R Davis, NJ2LD (ex KD2BZA) to Extra

73 de SKIP N2EI

#### **ARRL Southern New Jersey Section**

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

**n2ei <at> arrl <dot> org**

**Facebook Page:** [www.facebook.com/ARRL-Southern-New-Jersey-Section-for-Ham-Radio](https://www.facebook.com/ARRL-Southern-New-Jersey-Section-for-Ham-Radio)

#### **Welcome New Club Members:**

Masayoshi (Iggy) Nishina, KD2MGU, who has a Technician Class license and lives in Mantua, NJ.  
Kareem Hutt Jr, an Associate member from Woodlynne, NJ.

We are glad to have you as members of the Club and hope to see you regularly at Club events, activities, and meetings.

## Southern New Jersey Section ARES Report : November 2016

By Tony Otlowski, W2WCC

Total number of ARES members: 261

Change since last month (+, -, same): +1

Number of DEC/ECs reporting this month: 8

Number of ARES nets active:

Number of nets with NTS liaison:

Calls of DEC/ECs reporting: N2CSA

WX2NJ

N2SRQ

KC2ZOM

KE2ES

KC2GNQ

N2MHO

Number of drills, tests and training sessions this month: 27

Person hours: 130.4

Number of public service events this month: 1

Person hours: 2

Number of emergency operations this month: 0

Person Hours: 0

Total number of ARES operations this month: 29

Total Person hours: 132.4

Comments:

Tony Otlowski W2WCC

ARRL Southern New Jersey Section

Section Manager: T J Arey, N2EI

n2ei <at> arrl <dot> org



**Need a ride to a club meeting, event, or activity?  
Just send an e-mail to the club e-mail reflector :  
GCARC <at> MAILMAN <dot> QTH <dot> NET**

**All members have access to this FREE service.**

**And if a fellow club member who lives nearby can give you a lift, well,  
there you go! It's just that easy!**





# ANAN 10E + HLA 305V = 300 Watts at W2MMD Clubhouse

## December 3 and 9, 2016

By Mark Gottlieb, WA2DIY

Date	Time	Call	Band	Freq	Mode	Grid	Country	Comments
12/03	21:52	JM7OLW	20M	14.018	CW	QM07fo	Japan	Suke Kousuke Matsumoto
12/03	20:52	ZS5DCF	20M	14.190	SSB	KG50mf	South Africa	Deon Fraser
12/03	20:48	3DA0TM	20M	14.292	SSB		Swaziland	Andy Cory
12/03	20:44	W0KO	20M	14.023	CW	EN26wi	United States	M Fritz Bertelt
12/03	20:05	A25SL	20M	14.195	SSB	KG47ac55	Botswana	Leon Smit
12/03	19:55	W9CAP	20M	14.250	SSB	EN61eq	United States	Illinois Wing Civil Air Patrol Amateur Radio Club
12/03	19:37	W6ZZK	20M	14.239	SSB	CN70wt23	United States	Humboldt Amateur Radio Club
12/03	19:14	ZL2OK	17M	18.155	SSB	RE89ex13	New Zealand	David Sullivan
12/03	19:00	9Q0HQ	20M	14.230	SSB	J175pq	Congo DR	Club Station ARAC
12/03	18:34	CX6DRA	15M	21.019	CW	GF15vg	Uruguay	Wilder Alex Alvez
12/03	18:22	KP2Q	20M	14.010	CW	FK77pr	US Virgin Islands	DXers In Paradise
12/03	17:56	EA9KB	20M	14.195	SSB		Ceuta and Melilla	Enrique Bellido Garcio

Date	Time	Call	Band	Freq	Mode	Grid	Country	Comments
12/09	21:51	VK2GGC	10M	28.465	SSB	QF57vl	Australia	Girl Guides Callemondah
12/09	21:43	VK2GJC	10M	28.480	SSB	QF54fp	Australia	Greg Cogar
12/09	21:09	PY2MC	10M	28.028	CW	GG67gk	Brazil	Claudio R S Pinto
12/09	21:04	C5YK	20M	14.206	SSB	IK13pk	The Gambia	Andre Bourbon
12/09	20:58	XE1B	10M	28.427	SSB	EK09jh	Mexico	OP Marcos aka Mark
12/09	20:47	ZV2C	10M	28.480	SSB	GG66qm	Brazil	Mauricio Pitorri - PY2CX
12/09	20:35	ZS6BYT	20M	14.180	SSB	KG43fr69	South Africa	Scott Bigwood
12/09	20:31	PY6RT	20M	14.200	SSB	HH07mr	Brazil	Roberto Tourinho - BETO
12/09	20:29	ZS6AMX	20M	14.190	SSB	KG21	South Africa	Abel Costa
12/09	19:49	WJ1B	17M	18.112	SSB	FN31nm	United States	Connecticut - Harold R Kramer
12/09	18:46	J6/K0BBC	10M	28.305	SSB		Saint Lucia	Matthew Holden
12/09	18:40	CM2FRB	15M	21.300	SSB	EL83sb	Cuba	Fidel Reyes Borrell
12/09	18:31	6Y6Y	17M	18.157	SSB	FK08tg	Jamaica	Lester B Veenstra
12/09	18:01	S01A	17M	18.140	SSB	IL56hb	Western Sahara	Naama Zeinddin
12/09	17:59	YV1KK	10M	28.485	SSB	FJ49sh	Venezuela	Julio Rivero
12/09	17:53	NA9Q	10M	28.510	SSB	EM49hv	United States	Illinois - Michael L Nowack
12/09	17:29	7Y9SE	20M	14.275	CW		Algeria	Cap Sigli Lighthouse ALG-016 Bejaia from July 12 to December 12, 2016



## Is there a market for a \$400 “prepper” radio?

By Dan Romanchik, KB6NU

A couple of days ago, a reader wrote:

*"I would like to know if it would be feasible to build a radio with the following features:*

- SSB operation (only SSB is required, CW would be an additional benefit)
- 20 – 50W of power
- Portable-friendly (lightweight, capable of operating at lower voltages from small portable batteries)
- Low receiver current drain
- Coverage of 40m and 80m bands. Very limited coverage is acceptable. Even channelized coverage of a few select frequencies would be acceptable.
- S-meter

*"It strikes me that there is a large market for ham radio products for “preppers,” and there has been a lot of interest in the Baofeng line of radios from that market. I think there would be a LOT of interest in a radio that could go far beyond line-of-sight and contact friends or family hundreds of miles away. Preppers would have little interest in contacts more than a state or two away, and no interest at all in novel operating modes. I wonder if a radio that trims away excess features (all-mode operation, wide frequency coverage, high power output, sophisticated audio filtering) could be produced for a lot less cost than currently available HF rigs. If so, and it was paired with a decent NVIS dipole and some General-class study materials and sold as a package deal, it could be a huge hit – Something you could tuck in a bug-out-bag, set up in the field, and use to make contacts in a reasonably local area, or set up in your backyard at home and use minimal power to operate.*

*"Is there a reason why I don't see radios like this on the market, some kind of technological limitation that would make this sort of thing impractical? If something like this was built, what kind of cost and performance would you expect? I'm certainly not expecting any kind of detailed analysis, but even just a speculation about if such a project could be feasible would be appreciated."*

I replied:

*"I think one of the reasons you don't see radios with the feature set you describe is that more full-featured radios are already pretty inexpensive. The Yaesu FT-450D, for example, costs less than \$800 and offers 100W output. The FT-817ND, which is designed for portable operation, costs less than \$700. Is that too much for preppers?"*

*"While it might seem like you could sell a radio with fewer features for less, I think that you hit the law of diminishing returns. At some point, removing features, doesn't reduce the cost all that much. For example, removing the CW capabilities from a transceiver capable of SSB operation really doesn't save that much because in a way CW operation is really just a subset of SSB operation. You'll save the cost of a key jack, but how much is that? Maybe a buck or two. Having said that, it could be that the big amateur radio manufacturers are overlooking an opportunity here."*

We swapped a couple more e-mails about this. He noted, "Most preppers would probably rather buy a high-end AR-15 or several months worth of storage food for \$800 than a radio." I suggested, "If there was a catastrophic event, and you really needed to communicate, wouldn't it seem silly to have not spent the extra \$400 on a really decent radio?"

What do you think?

- Is my analysis a little too simplistic perhaps?
- Are amateur radio manufacturers ignoring a potential market?

Dan, KB6NU, is the author of the "No Nonsense" amateur radio license study guides, and blogs about amateur radio at [KB6NU.Com](http://KB6NU.Com). You can contact him by e-mailing [cwgeek <at> kb6nu <dot> com](mailto:cwgeek@kb6nu.com).

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## **Club Membership Stats - 2016 Year In Review**

We now have 138 members.

We had 14 new and 7 returning members join the club in 2016.

### **A Big THANK YOU to the new and returning members of the class of 2016!**

We have 121 Full, 4 Family, 1 Junior, 3 Associate, and 9 Life members.

100 of our flock are ARRL members. 15 of which are ARRL Life members.

We have 20 Technician Class, 41 General Class, 9 Advanced Class, and 65 Amateur Extra Class licensees in our club.

There were 5 Silent Keys in 2016 :

Current Members : Charles Sketchley K2PQD and Ralph Ditore K2KIT

Former Members : Edward Egolf WA2ZMS, Steven Fidler III N2GVR, William Hansche Jr W2ILL

### **Location Stats :**

- Williamstown leads the way as the home of 12 members, Sewell has 9, Franklinville has 8, and Mantua has 7 members.
- 13 members live out of state:
  - 5 in Pennsylvania
  - 2 in Texas
  - 2 in Delaware
  - 1 each in Florida, Georgia, Illinois, and South Carolina.

## Will you even need a driver's license after 2021?

By Jim Wright, N2GXJ

Question: What do all these have in common?

Google, Uber, Tesla, BMW, Daimler, Baidu, PSA Groupe, LeEco, Faraday Future, Zoox, Volvo, Toyota, Honda, Nissan, Ford partnering with SAIPS, and General Motors partnering with Lyft and Cruise. Answer: they are all in a race to put self-driving cars on the road within the next 4 years! This is no longer a "George Jetson" fantasy of the future. This is real, this is today, and it has interesting implications for us as Americans.



By one estimate, over 10 million self-driving cars will be on the road by 2020. So, what is a self-driving vehicle?

The Society of Automotive Engineers describes 6 levels of automation to describe a self-driving car from level 0 (no automation at all) to level 5 (completely autonomous). I would simplify that and say there are really just two broad categories of self-driving vehicles, either the car is semi-autonomous, or it is autonomous.

So what would be the definition of a semi-autonomous vehicle? These vehicles have the ability to accelerate, brake, and drive a path from A to B over real highways in real world conditions, requiring some, but limited driver involvement. Vehicles with all of these abilities continue to be tested and refined in 2017, with some features, such as ability to autonomously brake to avoid a head-on collision, already mature enough to be taken out of the test phase and now able to be commercially offered on some models of cars and trucks today.

So what would be the definition of an autonomous vehicle? I would describe a fully autonomous vehicle as being able to drive from one place to another, negotiating road conditions, without needing any involvement from a driver. I came across one estimate that suggested a fully autonomous vehicle might be available for consumer purchase starting as early as 2019. We'll see. Even if the year is in question as to when, it really is not a question of "if" anymore. It is a question of when. And that is why it is the category of autonomous vehicles that is of particular interest to me, as it represents a disruptive change to our American driving pastime that is going to happen, with implications most have not begun to think about yet.

Think of our aging American population. Many are finding they can't see as good as they used to, and, so as not to be a hazard to themselves and others, don't like to drive at night anymore. And at a certain point, either they realize it themselves, or their families make it clear for them that they don't want them driving at all anymore. And that is when the driver's license is revoked, or is simply not renewed.

What a loss of freedom! Our American culture is based on easy access to the automobile - in the sprawl of suburbia you need a car to get to the grocery stores, the hardware store, the mall, to visit with family, the list goes on and on. Imagine not as it is now, but imagine if you were able to own a fully autonomous car 5 years from now. If the legislators in Congress can keep up with the evolving technology, might this mean that you could be exempt from having to pass a driver's test if you could prove you owned an autonomous car? You could have your car drive you at night, to the store, to the mall, to visit family without having to

*Autonomous Vehicles - Continued on page 12*



worry about doing the driving. It would be like having your own chauffeur! Your freedom - restored!

Think of the bar-hopping college kid who just turned 21, out with his best friends for a night on the town. Or the overstressed, overworked, middle-aged worker who just wants to let off some steam after hours with his buddies. The consequential risks of death to self and others posed by these scenarios spawned the Mothers Against Drunk Drivers movement and the 1990's push for designated drivers. But what if the whole group wants to party? Nobody likes to be left out.

Today's 2017 answer to not getting a DUI is to call an Uber. Often cheaper and more accessible than a taxi, to 'Uber' has become so common it has become a verb - it's what you do. Instead of hailing an Uber, wouldn't it be easier still if you had your own autonomous car? If the legislators in Congress can keep up with the evolving technology, might this mean you would be exempt from DUI if you could prove you were being driven home by your autonomous car?

From these examples, as a consumer, an autonomous car sounds great. But like I suggested earlier, such technology represents a disruptive change to our American driving pastime with implications most have not begun to think about yet.

Let's expand upon that Uber example. Look at the list of companies at the start of this article. What if Zoox, or Uber themselves, succeeds in developing an autonomous vehicle intended for use as a robotic taxi? Good for the consumer of these services, yes, we've established that, but what about for those who make their living offering their services as a professional Uber driver today? Simply stated, like so many other low paying jobs in America, they will lose their jobs to automation.

Seen any pools of typists, switchboard operators, or filing clerks at any companies recently? You don't. I'm sure you can remember when factory assembly lines employed hundreds of workers. Automation can do many of those jobs now 24 hours x7 days/week, and without complaints from the workers. No lunch breaks, no vacations, no sick time, no medical payments, nor other distractions from the bottom line for those making the automation decisions - except for maybe the need to contract for or hire a couple of skilled technicians to ensure the robots keep running.

Been to a supermarket or hardware store recently and seen "self service" check-out positions leveraging advances in technology to reduce the number of checkout clerks the store has to hire and retain? Replacing lower paying service positions with automation is a growing trend. Soon a fast food restaurant may be offering kiosks and automated ordering systems where someone used to have an entry level job asking if you want fries with that. Think that is far fetched? Ed Rensi, McDonald's ex-CEO, has basically suggested that trying to help the unskilled worker make decent living by raising the minimum wage to \$15/hr might actually have the opposite effect, as it could "unleash a robot rebellion in the fast food industry", resulting in "job loss like you can't believe" (ref: [www.arstechnica.com/business/2016/05/mcdonalds-ex-ceo-15hr-minimum-wage-will-unleash-the-robot-rebellion](http://www.arstechnica.com/business/2016/05/mcdonalds-ex-ceo-15hr-minimum-wage-will-unleash-the-robot-rebellion)).



Now that is only one person's opinion, though admittedly he is credible in the fast food industry. But still, I would ask, if the minimum wage isn't raised, isn't it just a matter of time before this happens anyway? So, as it was with the check-out clerks at the grocery stores, if a percentage of the jobs are going to be displaced anyway, shouldn't those who remain with the higher skills to do both their existing jobs, and now also tend after the automated equipment that displaced their co-workers, be allowed to benefit from the higher minimum wage commensurate with their increased responsibilities? Whoa! I have certainly digressed. Ok, back to autonomous vehicles.

Let us consider, for a moment, the implication of autonomous vehicles for the long haul trucking industry. The backbone of American manufacturing is the transport of raw materials and goods over the nearly 48,000 miles of the American interstate road system we have today, a highway system championed by the late President Dwight Eisenhower, and authorized by the Federal Aid Highway Act of 1956, just 60 years ago. Millions of Americans now make their living as professional drivers, benefiting from the highway infrastructure built up over these past 6 decades. However, according to the Seattle Times ([www.seattletimes.com/business/self-driving-cars-and-trucks-could-leave-many-jobs-in-the-dust](http://www.seattletimes.com/business/self-driving-cars-and-trucks-could-leave-many-jobs-in-the-dust)), those who make their living as professional drivers may have their livelihood threatened by a rise in autonomous trucking.

Just this week (December 2016), advisors to President Obama released a report on artificial intelligence, including the effects of automation on the US job market and economy ([www.whitehouse.gov/sites/whitehouse.gov/files/documents/Artificial-Intelligence-Automation-Economy.PDF](http://www.whitehouse.gov/sites/whitehouse.gov/files/documents/Artificial-Intelligence-Automation-Economy.PDF)). As described in the report, there is significant potential for wealth gains due to increased productivity. However there are threats to existing jobs and a real potential to increase the wage inequality between lower-skilled, less-educated workers and those with higher skills. As stated in the introductory page of the report "aggressive policy action will be needed to help Americans who are disadvantaged by these changes and to ensure that the enormous benefits of AI and automation are developed by and available to all".

Translation please? I think I found a translation in the Conclusions section of the Executive Summary on page 4 of the report: "Responding to the economic effects of AI-driven automation will be a significant policy challenge for the next Administration and its successors". So, this is another way of saying that if the legislators in Congress can keep up with the evolving technology, we'll be fine? Enough said.

As John Dvorak said in his "Autonomous Car by 2020? No Way" article for PC magazine ([www.pcmag.com/commentary/343666/the-autonomous-car-by-2020-no-way](http://www.pcmag.com/commentary/343666/the-autonomous-car-by-2020-no-way)), "while the autonomous vehicle will become the epitome of what is called a disruptive technology, their slow rollout will give people a chance to block full implementation. The big rig trucks are part of the problem. This is not the time in the economic downturn to be threatening the welfare of thousands of well-paid Teamsters. After all, the states and municipalities will have the last word in legalizing these products. Driving a truck full of (produce) from Kansas to San Francisco in a driverless 18-wheeler won't be much of a money saver if it is stopped at the city limits because San Francisco will not allow them to operate there"

Very few still ride around in horse and buggy anymore (even in Lancaster, PA). The Model T, or "Tin Lizzie" as it was called, changed the way Americans live, work, and travel. It is now 100 years later, and autonomous vehicles (though one might argue as being more evolutionary than revolutionary) have a similar potential to change the way Americans live, work, and travel. Ready or not, autonomous vehicles are coming. I hope we will stay educated, will keep the dialog open, and will work together, with policy forethought, to enable all Americans to adapt to the changes autonomous vehicles will bring, so that we all can come out better off in the future.

## Report on the New Jersey QSO Party from the Burlington County Radio Club (K2TD)

Thank you to all who participated in the 2016 running of the NJQP! And a special thanks to those of you who submitted logs. 2016 was a special year for us here in BCRC as it marked the 5th year we have sponsored the NJQP. The awards are being processed.

Congratulations to this year's winners! Carol N2MM took top honors in NJ, followed closely this year by NNJ top scorer Mike WS2E. The number one spot from outside of NJ went to Steve KZ2I, with Marc W4MPS a close second. Both KZ2I and W4MPS worked all 21 counties - an NJQP sweep! The gavel this year belongs to top NJ club Sussex County ARC, and the Delaware Valley Radio Association finished second. An interesting side note about DVRA; they recently completely rebuilt their club station and their goal was to have it completed by the NJQP! They made it! We appreciate the special effort!

Have to give well deserved recognition for another special effort by two rovers - K0BAK who covered NNJ and K2AA/R who covered SNJ. Thanks guys! And also thank you to SNJ SM Skip N2EI who once again sponsored the plaque for the top SNJ station, and to Steve K2SO for sponsoring the top scoring NNJ plaque!

As mentioned above, this was our 5th year sponsoring the NJQP. In our first year, 2012, there were 39 logs submitted, 22 from NJ and 17 from out of state which represented 12 states, 8 counties, 2 Canadians, and no DX. Five NJ clubs were represented. This year, 2016, 102 logs were sent in, 36 from NJ, 53 from out of NJ, 6 Canadian, and 7 DX which represented 17 counties, 25 states, and 12 NJ clubs! Thanks to all of you, the NJQP is growing! We're still small potatoes, but interest appears to be increasing. BCRC is doing a better job too. In 2012 our club bonus station K2TD made 65 QSOs which appeared in about 1/3 of the logs. In 2016 K2TD made over 500 QSOs in about 2/3 of the logs.

Just one note with regard to logs; several logs were received with no power level so we had to place those in the High power category. On the other extreme we had 6 QRP entries, so this entry category continues to grow. The NJQP continues its growth. Let your ham friends know so they can join in on the fun. The Burlington County Radio Club looks forward to hearing you on the air for NJQP 2017 - mark September 16-17 on your calendar! Until then, 73 and good DX!

**ARRL Southern New Jersey Section**

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

**n2ei <at> arrl <dot> org**

**Radiosport**

**Kids Day January 2017**

**1800 UTC – 2359 UTC**  
**Saturday, January 7**

Get kids on the air and share  
the **FUN** of Amateur Radio.

[www.arrl.org/kids-day](http://www.arrl.org/kids-day)





## 2016 Holiday Dinner



**December 5, 2016**



**Harrison House  
Diner & Restaurant  
Mullica Hill, NJ**

[www.harrisonhousediner.com](http://www.harrisonhousediner.com)



# W1AW 2016/2017 Winter Operating Schedule

## Daily Visitor Operating Hours:

1500 UTC to 1700 UTC - (10 AM to 12 PM ET)

1800 UTC to 2045 UTC - (1 PM to 3:45 PM ET)

(Station closed 1700 to 1800 UTC (12 PM to 1 PM ET))

## Morning Schedule :

Time	Modes	Days
1400 UTC (9 AM ET)	CWs	Wednesday, Friday
1400 UTC (9 AM ET)	CWf	Tuesday, Thursday

## Afternoon/Evening Schedule :

Time	Modes	Days
2100 UTC (4 PM ET)	CWf	Monday, Wednesday, Friday
2100 UTC (4 PM ET)	CWs	Tuesday, Thursday
2200 UTC (5 PM ET)	CWb	Daily
2300 UTC (6 PM ET)	Digital	Daily
0000 UTC (7 PM ET)	CWs	Monday, Wednesday, Friday
0000 UTC (7 PM ET)	CWf	Tuesday, Thursday
0100 UTC (8 PM ET)	CWb	Daily
0200 UTC (9 PM ET)	Digital	Daily
0245 UTC (9:45 PM ET)	Voice	Daily
0300 UTC (10 PM ET)	CWf	Monday, Wednesday, Friday
0300 UTC (10 PM ET)	CWs	Tuesday, Thursday
0400 UTC (11 PM ET)	CWb	Daily

## Frequencies (MHz) :

CW :	1.8025	3.5815	7.0475	14.0475	18.0975	21.0675	28.0675	147.555
Digital :	-	3.5975	7.0950	14.0950	18.1025	21.0950	28.0950	147.555
Voice :	1.8550	3.9900	7.2900	14.2900	18.1600	21.3900	28.5900	147.555

W1AW Operating Schedule - Continued on page 17

**Notes:**

**CWs** = Morse Code practice (slow) = 5, 7.5, 10, 13 and 15 WPM

**CWf** = Morse Code practice (fast) = 35, 30, 25, 20, 15, 13 and 10 WPM

**CWb** = Morse Code Bulletins = 18 WPM

CW frequencies include code practices, Qualifying Runs and CW bulletins.

DIGITAL = BAUDOT (45.45 baud), BPSK31 and MFSK16 in a revolving schedule.

Beginning in January 2017, the voice mode used for W1AW's 40 Meter voice bulletins will be full-carrier, double-sideband AM.

Code practice texts are from QST, and the source of each practice is given at the beginning of each practice and at the beginning of alternate speeds.

On Tuesdays and Fridays at 2330 UTC (6:30 PM ET), Keplerian Elements for active amateur satellites are sent on the regular digital frequencies.

A DX bulletin replaces or is added to the regular bulletins between 0100 UTC (8 PM ET) Thursdays and 0100 UTC (8 PM ET) Fridays.

Audio from W1AW's CW code practices, CW/digital bulletins and phone bulletin is available using EchoLink via the W1AW Conference Server named "W1AWBDCT." The monthly W1AW Qualifying Runs are presented here as well. The audio is sent in real-time and runs concurrently with W1AW's regular transmission schedule.

All users who connect to the conference server are muted. Please note that any questions or comments about this server should not be sent via the "Text" window in EchoLink. Please direct any questions or comments to [w1aw <at> arrl <dot> org](mailto:w1aw@arrl.org).

In a communications emergency, monitor W1AW for special bulletins as follows: Voice on the hour, Digital at 15 minutes past the hour, and CW on the half hour.

All licensed amateurs may operate the station from 1500 UTC to 1700 UTC (10 AM to 12 PM ET), and then from 1800 UTC to 2045 UTC (1 PM to 3:45 PM ET) Monday through Friday. Be sure to bring your current FCC amateur license or a photocopy.

The complete W1AW Operating Schedule may also be found on page 83 in the November 2016 issue of QST or on the web at: <http://www.arrl.org/w1aw-operating-schedule>.

***Dues Are Due!***



## Regional Hamfests and Events

**January 12, 2017** : Phil-Mont Mobile Radio Club 21<sup>st</sup> Annual “Ham Radio Auction-Fest”, Wolcott Auditorium, Roxborough Memorial Hospital, 5800 Ridge Avenue, Philadelphia, PA. [www.phil-mont.org](http://www.phil-mont.org)

**January 21, 2017** : Harrisburg Radio Amateurs’ Club WinterFest, Vietnam Veterans of America, 8000 Derry Street, Harrisburg, PA. [www.w3uu.org](http://www.w3uu.org)

**January 29, 2017** : Maryland Mobileers Amateur Radio Club MMARC Hamfest, Odenton Volunteer Fire Department, 1425 Annapolis Road (Route 175), Odenton, MD. [www.tinyurl.com/marylandmobileers](http://www.tinyurl.com/marylandmobileers)



The banner features a scenic view of a coastal fortification. On the left is the ARRL logo. In the center, the text "ARRL PUERTO RICO STATE CONVENTION" is displayed. On the right is a circular seal for the American Radio Relay League Puerto Rico State Convention. Below the image, a yellow bar contains the dates "January 27 - 29, 2017" and the website "www.arrlpr.org".

**January 27 - 29, 2017**  
[www.arrlpr.org](http://www.arrlpr.org)



The banner has a blue background with white snowflakes. The word "FROSTFEST" is written in large, stylized, icy letters. To the right, the text "The Mid-Atlantic's Largest Winter Hamfest!" is written in white.

**FROSTFEST** The Mid-Atlantic's Largest Winter Hamfest!

**Saturday, February 4, 2017 at the Richmond Raceway Complex - [www.frostfest.com](http://www.frostfest.com)**



The certificate has a decorative border and contains the following text: "Tennessee QSO Party 2016" in red script, "New Jersey Winner" in black, "Single-op Low Power Mixed" in black, "N2CQ" in large blue letters, and "11,532 Points" in black. It includes a map of Tennessee, a signature, and a circular logo for the Tennessee Contest Group (TCG). The text "Tennessee Contest Group" and "Contest Manager" is at the bottom.

*Tennessee QSO Party 2016*

New Jersey Winner  
Single-op Low Power Mixed  
**N2CQ**  
11,532 Points

Tennessee Contest Group Contest Manager

## DA's and DIT's

**Gary Reed, N2QEE**, reports that the December 8, 2016 VE session had 4 candidates, resulting in three new Technicians: Richard KD2MLV, Jerry KD2MLW, and Ryan KD2MLX. We had a candidate, Larry KG5QQI, from Houston, TX, who was working in the area who upgraded to General.

**Patrick Connor, N3TSZ**, submitted this message on our website: The Philadelphia Digital Radio Association is now operating a D-RATS reflector (Ratflector). The address is [k3pdr.dstargateway.org](http://k3pdr.dstargateway.org), port 9000. There are also two RF gateways to this Ratflector. Use a 1200 baud TNC or AGWPE soundcard on 144.97 MHz simplex, or a D-STAR radio on 445.73125 MHz with a negative offset. It is open to all Amateurs. If you are in the Philadelphia, PA Metro area, please give it a try.

**Mark Gottlieb, WA2DIY**, donated a digital space heater for the HF room in the Clubhouse.

**Mark** also demonstrated the Apache Labs ANAN 10E SDR transceiver and the HLA 305V amplifier at the December 10, 2016 Tech Saturday Forum. And as you can see from WA2DIY's QSO logs on page 8, using his radio equipment with the Clubhouse's antennas, allows anyone to talk to the world.

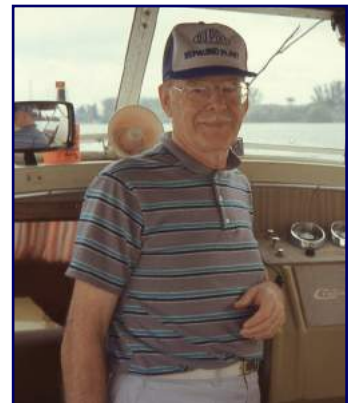
**Mark also reports :** Just saw this on Twit.tv...go to this website <http://radio.garden/> to stream every part of the globe's commercial radio stations. You will see a Google Earth type globe and simply point and click on any green dot to hear what is going on live, on a commercial radio station, in that particular country. Also has other features like old time station ID jingles. Pretty Neat!

**Al Arrison, KB2AYU :** I will start taking your membership dues at the January 7, 2017 General Membership Meeting. Still a reasonable \$20.00 for Full Members.



**Dave Sheppard, W2PAX**, wrote this message on our Facebook page:

*Christmas for me was very special. Gurdon Cooper, my maternal grandfather and the "original" W2PAX, was a GCARC member for many years, and club president in 1966. He passed away about six years ago. My Mom, unbeknownst to me, still had one of his GCARC shirts. For Christmas she had the shirt with the club emblem, and the pocket with his nickname and callsign framed. He was without a doubt my "Elmer", and it means a lot that he can live on in my shack, where "W2PAX" still calls over the radio. I hope everyone had a Merry Christmas. 73 de W2PAX*



# Mass Movements of Invisibles

By Jim Wright, N2GXJ

Have you ever experimented with radar sensitive enough to track insects? Apparently, researchers in England have such specialized radar, which they call a “vertical-looking entomological radar”, and have used it to make some startling findings.

For anything above about 10 milligrams (0.00035 ounces), this radar is reported to be able to measure body mass, flight altitude, aerial density, displacement speed, displacement direction, and flight heading. Researchers have been tracking insects above England from several locations for ten years now using this radar and the use of traditional insect-catching nets. A study of the findings has just been published.

The volume of insects they found is quite impressive. Over the ten year study, the researchers found over 3.3 trillion insects traveled above their study area. Collectively, they say that represents over 3200 tons of insects. That’s a mass of flying bugs!

The majority of insects were found to be small, and tended to travel in the daytime, and in the direction of the prevailing winds. The larger insects, however, were found to travel mostly at night, and appeared to be involved in seasonal migrations, moving north in the spring, and south in the fall, independent of the wind. During their travels, some of these larger ones were seen reaching speeds of 30 MPH, enabling them to cover great distances in just a few hours.

You can read more in the original article at [www.science.sciencemag.org/content/354/6319/1584](http://www.science.sciencemag.org/content/354/6319/1584), or in easier to read summaries at: [www.arstechnica.com/science/2016/12/researchers-use-radar-to-track-3-5-trillion-insects-migrating-over-england](http://www.arstechnica.com/science/2016/12/researchers-use-radar-to-track-3-5-trillion-insects-migrating-over-england) and [www.eurekalert.org/pub\\_releases/2016-12/uoe-mim121916.php](http://www.eurekalert.org/pub_releases/2016-12/uoe-mim121916.php).

Intrigued by the technology of this radar, I went hunting a little more and found this earlier paper with more details of the vertical-looking radar: [www.researchgate.net/publication/232674461\\_Vertical-Looking\\_Radar\\_A\\_New\\_Tool\\_for\\_Monitoring\\_High-Altitude\\_Insect\\_Migration](http://www.researchgate.net/publication/232674461_Vertical-Looking_Radar_A_New_Tool_for_Monitoring_High-Altitude_Insect_Migration).

I wonder if anyone has built a radar like that in the USA. All this flying bug stuff has me kind of creeped out. Glad it is winter and we don’t have to worry about that for a few more months, until it is spring!

Happy reading all!





# A REALLY BIG BUGS ANNOUNCEMENT

**It's your Two Thousand and Seventeen Club Officers!**



**President:  
Harry Elwell  
K2ATX**



**Vice President:  
Tony Otlowski  
W2WCC**



**Treasurer:  
Al Arrison  
KB2AYU**



**Recording Secretary:  
Bruce Canino  
KD2LBU**



**Corresponding Secretary:  
Ron Block  
NR2B**



**Director:  
John Zaruba  
K2ZA**



**Trustee:  
Bob Fields  
KC6AOH**



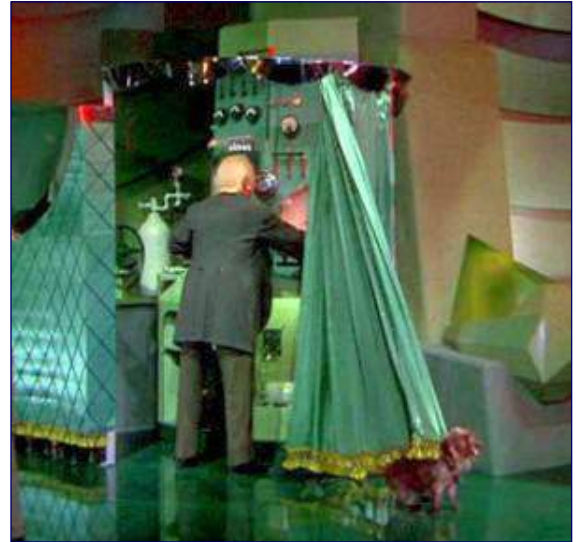
**Director:  
Lee Marino  
N2LAM**

## Thanks from the man behind the curtain

By Jeff Garth, KC2WCS

I wish to thank the following people who contributed to the Crosstalk Magazine in 2016:

**Jim Wright**  
**Bill and Barbara Grim**  
**John Zaruba**  
**Skip Arey**  
**Mark Gottlieb**  
**Bill Price**  
**Al Arrison**  
**Tom Gorman**  
**Vinnie Sallustio**  
**Cory Sickles**  
**Gary Reed**  
**Michael Weldon**  
**Bill Szkromiuk**  
**Matt Rainey**  
**Urb LeJeune**  
**Bruce Canino**  
**Bob Fields**  
**Mike Mollet**  
**Daniel Romanchik**  
**Layne LaBaume**



Thank you to all who provided the material and the inspiration to make this Crosstalk what it is today!



## Element 3 General Class License Question Quiz

Questions from the Element 3 General Class License Question Pool. This will be regular feature to help Technicians upgrade to General Class. Answers on 'Last Page Calendar'.

Here are 10 more questions from Subelement G1: Commission's Rules

### **G1D05 [97.509(b)(3)(i)]**

Which of the following must a person have before they can be administering VE for a Technician Class license examination?

- A. Notification to the FCC that you want to give an examination
- B. Receipt of a CSCE for General Class
- C. Possession of a properly obtained telegraphy license
- D. An FCC General Class or higher license and VEC accreditation

### **G1D06 [97.119(f)(2)]**

When must you add the special identifier "AG" after your call sign if you are a Technician Class licensee and have a CSCE for General Class operator privileges, but the FCC has not yet posted your upgrade on its website ?

- A. Whenever you operate using General Class frequency privileges
- B. Whenever you operate on any amateur frequency
- C. Whenever you operate using Technician frequency privileges
- D. A special identifier is not required as long as your General Class license application has been filed with the FCC

### **G1D07 [97.509(b)(1)]**

Volunteer Examiners are accredited by what organization?

- A. The Federal Communications Commission
- B. The Universal Licensing System
- C. A Volunteer Examiner Coordinator
- D. The Wireless Telecommunications Bureau

### **G1D08 [97.509(b)(3)]**

Which of the following criteria must be met for a non-U.S. citizen to be an accredited Volunteer Examiner?

- A. The person must be a resident of the U.S. for a minimum of 5 years
- B. The person must hold an FCC granted Amateur Radio license of General Class or above
- C. The person's home citizenship must be in ITU region 2
- D. None of these choices is correct; a non-U.S. citizen cannot be a Volunteer Examiner

### **G1D09 [97.9(b)]**

How long is a Certificate of Successful Completion of Examination (CSCE) valid for exam element credit?

- A. 30 days
- B. 180 days
- C. 365 days
- D. For as long as your current license is valid

**G1D10 [97.509(b)(2)]**

What is the minimum age that one must be to qualify as an accredited Volunteer Examiner?

- A. 12 years
- B. 18 years
- C. 21 years
- D. There is no age limit

**G1D11**

If a person has an expired FCC issued amateur radio license of General Class or higher, what is required before they can receive a new license?

- A. They must have a letter from the FCC showing they once held an amateur or commercial license
- B. There are no requirements other than being able to show a copy of the expired license
- C. The applicant must be able to produce a copy of a page from a call book published in the USA showing his or her name and address
- D. The applicant must pass the current element 2 exam

**G1E01 [97.115(b)(2)]**

Which of the following would disqualify a third party from participating in stating a message over an amateur station?

- A. The third party's amateur license has been revoked and not reinstated
- B. The third party is not a U.S. citizen
- C. The third party is a licensed amateur
- D. The third party is speaking in a language other than English

**G1E02 [97.205(b)]**

When may a 10-meter repeater retransmit the 2-meter signal from a station having a Technician Class control operator?

- A. Under no circumstances
- B. Only if the station on 10-meters is operating under a Special Temporary Authorization allowing such retransmission
- C. Only during an FCC declared general state of communications emergency
- D. Only if the 10-meter repeater control operator holds at least a General Class license

**G1E03 [97.221]**

What is required to conduct communications with a digital station operating under automatic control outside the automatic control band segments?

- A. The station initiating the contact must be under local or remote control
- B. The interrogating transmission must be made by another automatically controlled station
- C. No third party traffic may be transmitted
- D. The control operator of the interrogating station must hold an Extra Class license

**ARRL Ham Radio License Exam Practice Website**

[www.arrlexamreview.appspot.com](http://www.arrlexamreview.appspot.com)



<div>CQ Worldwide DX Contest, CW November 26, 2016</div> <div>Call: N2CQ Operator (s) : N2CQ Station: N2CQ</div> <div>Class: SOAB(A) QRP QTH: SNJ Operating Time (hrs): Location: USA</div> <div>Summary: Compare Scores Band    QSOs    Zones    Countries</div> <div>160: 80: 40: 20:    196    18    77 15:    55    11    38 10:    4    2    3</div> <div>Total:    255    31    118 Total Score: 106,237</div> <div>Club: Frankford Radio Club</div> <div>Comments:</div>	<div>CQ Worldwide DX Contest, CW November 26, 2016</div> <div>Call: W2YC Operator (s) : W2YC Station: W2yc</div> <div>Class: SOAB HP QTH: NJ Operating Time (hrs): 22 Location: USA</div> <div>Summary: Compare Scores Band    QSOs    Zones    Countries</div> <div>160:    26    8    16 80:    87    18    61 40:    285    31    107 20:    458    29    112 15:    155    23    80 10:    41    14    32</div> <div>Total:    1052    123    408 Total Score: 1,554,237</div> <div>Club: Frankford Radio Club</div> <div>Comments:</div>
<div>CQ Worldwide DX Contest, CW November 26, 2016</div> <div>Call: W2MMD Operator (s) : WK2G Station: W2MMD</div> <div>Class: SOAB/20 LP QTH: NJ Operating Time (hrs): 15 Location: USA</div> <div>Summary: Compare Scores Band    QSOs    Zones    Countries</div> <div>160: 80: 40: 20:    403    20    77 15: 10:</div> <div>Total:    403    20    77 Total Score: 109,610</div> <div>Club: Frankford Radio Club</div> <div>Comments:</div>	<div>ARRL 10 Meter Contest December 10, 2016</div> <div>Call: N2LAM Operator (s) : N2LAM, WB2P Station: N2LAM</div> <div>Class: M/S LP QTH: NJ Operating Time (hrs): 3:16 Location: USA</div> <div>Summary: Compare Scores Band    QSOs    Mults</div> <div>CW: SSB:    16    14</div> <div>Total:    16    14 Total Score: 448</div> <div>Club: Gloucester County Amateur Radio Club</div> <div>Comments:</div>

# CHERRY VALLEY MODEL RAILROAD CLUB

## Holiday Open House!

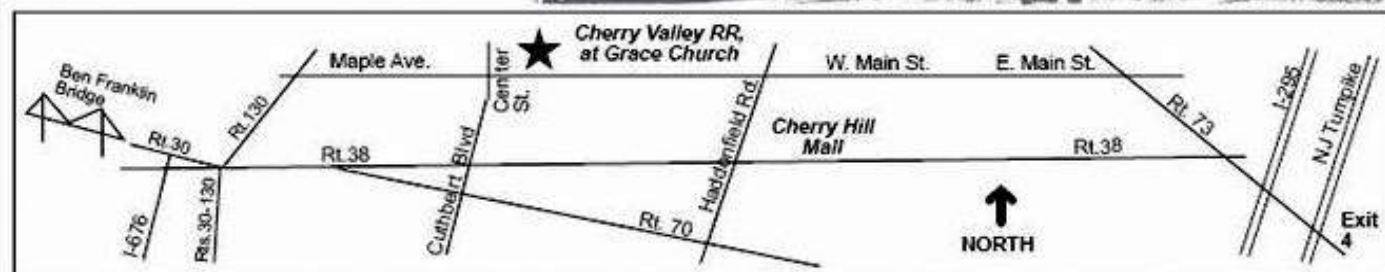
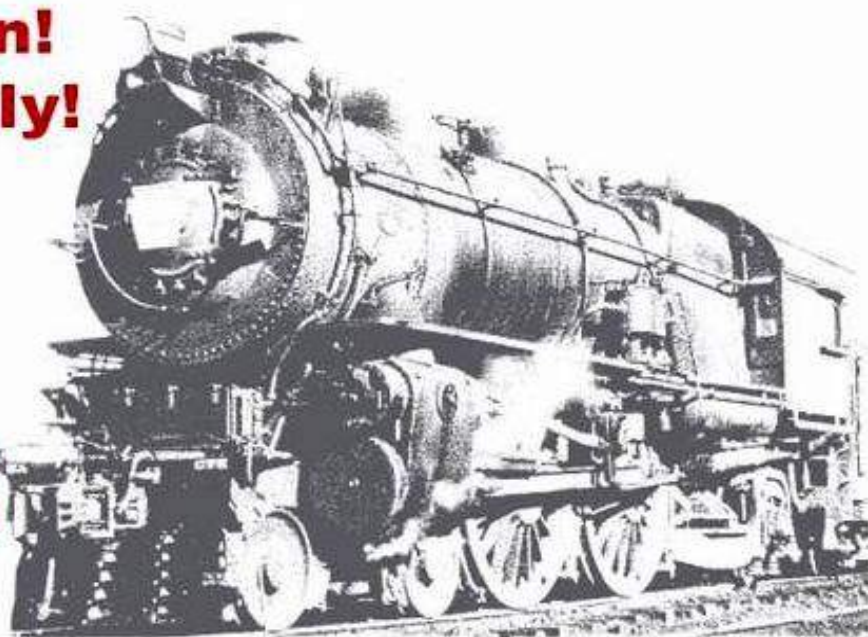
Grace Church • 7 East Maple Ave.  
Merchantville, NJ 08109

<b>Friday, Dec. 2</b>	<b>6pm-9pm</b>
<b>Sat. &amp; Sun, Dec. 3 &amp; 4</b>	<b>12noon - 4pm</b>
<b>Sat. &amp; Sun, Jan. 7 &amp; 8</b>	<b>12noon - 4pm</b>
<b>Sat. &amp; Sun, Jan. 14 &amp; 15</b>	<b>12noon - 4pm</b>

**Free admission!**  
**Bring the family!**

For information contact:  
John P. Dunn Sr.  
609-432-2871  
[jdunn8888@comcast.net](mailto:jdunn8888@comcast.net)

**Enjoy the magic of  
Model Railroading!**



## Regional Yaesu System Fusion Repeaters

County, State	Location	Callsign/Club	Frequency	Off-Set	PL Tone
Atlantic County, NJ	West Atlantic City	<a href="#">W2HRW/SPARC</a>	443.250 MHz	Plus	146.2 Hz
Burlington County, NJ	Medford	<a href="#">K2AA/SJRA</a>	145.290 MHz	Minus	91.5 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	Cherry Hill	KB2UMJ	446.375 MHz	Minus	91.5 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
Cape May County, NJ	Wildwood	WA2WUN	146.670 MHz	Minus	167.9 Hz
<b>*Cumberland County, NJ</b>	<b>Millville</b>	<b>K2MFW/KB2OLT</b>	<b>447.875 MHz</b>	<b>Minus</b>	<b>123.0 Hz</b>
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	Jennersville	<a href="#">N3SLC/SLRC</a>	145.250 MHz	Minus	114.8 Hz
Chester County, PA	Paoli	<a href="#">WB3JOE/MARC</a>	445.675 MHz	Minus	131.8 Hz
Chester County, PA	Valley Forge	<a href="#">W3PHL/PARA</a>	443.900 MHz	Plus	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
Kent County, DE	Woodside	<a href="#">KC3ARC/KCARC</a>	146.910 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	Bridgeville	<a href="#">W3TBG/NARC</a>	145.210 MHz	Minus	156.7 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	Seaford	N3KNT	146.715 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.*

## January Birthdays

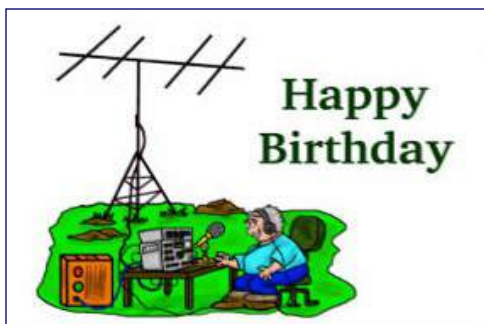
Congratulations to our members celebrating their birthday this month

James Alston AC2BY  
Alan Arrison KB2AYU  
Gary Bendy KC2YWJ  
Henry Bunk KD2HBO  
John Czuba K2AEN  
Joseph DiNovi WA2GFK (President 1986)  
Robert Gibison Sr KB2YBQ  
Ella Lee K2BNJ  
Laurie Love KD2EYW  
Adan Maskery KC2YJX  
Anthony Pitale Jr N2PKN  
Gary Reed N2QEE  
David Wade  
Matthew Wilson K2MFW

## In Memoriam January Birthdays

### Silent Keys:

Sidney Bozarth WB2YHX  
John Fahey WB2ONY  
William Hunsinger KB2YJB  
Louis Joseph W2LYL  
Miriam Kravitz KB2EUA  
Robert Layton KB2COB  
Charles Naylor W2CAN  
Steven Pakyz W2PZX  
Leonard Rosen N2LR  
**Frank Van Turner K3JM**  
Gene Wallace N2IMK  
Wayne Wood W2SUA (President 1973)



**Frank Van Turner  
K3JM**

Ex. W2KE  
Ex. 3JM

**Club Founder  
President 1959**

## 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 <dot> garth <at> comcast <dot> net.

Submission deadline for the February 2017 issue: Friday, January 20, 2017

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

Club E-Mail Reflector: GCARC <at> Mailman <dot> QTH <dot> Net



## January 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)

### January 2017

+ AGB New Year Snowball Contest	0000Z-0100Z, Jan 1
+ SARTG New Year RTTY Contest	0800Z-1100Z, Jan 1
+ AGCW Happy New Year Contest	0900Z-1200Z, Jan 1
+ AGCW VHF/UHF Contest	1400Z-1700Z, Jan 1 (144) and 1700Z-1800Z, Jan 1 (432)
+ QRP ARCI New Years Sprint	1500Z-1800Z, Jan 1
+ QRP ARCI New Years Sprint	1500Z-1800Z, Jan 1
+ ARS Spartan Sprint	0200Z-0400Z, Jan 3
+ QRP Fox Hunt	0200Z-0330Z, Jan 4
+ Phone Fray	0230Z-0300Z, Jan 4
+ CWops Mini-CWT Test	1300Z-1400Z, Jan 4 and 1900Z-2000Z, Jan 4 and 0300Z-0400Z, Jan 5
+ UKEICC 80m Contest	2000Z-2100Z, Jan 4
+ NCCC RTTY Sprint	0145Z-0215Z, Jan 6
+ QRP Fox Hunt	0200Z-0330Z, Jan 6
+ NCCC Sprint	0230Z-0300Z, Jan 6
+ PODXS 070 Club PSKFest	0000Z-2400Z, Jan 7
+ WW PMC Contest	1200Z, Jan 7 to 1200Z, Jan 8
+ SKCC Weekend Sprintathon	1200Z, Jan 7 to 2400Z, Jan 8
+ Original QRP Contest	1500Z, Jan 7 to 1500Z, Jan 8
+ Kid's Day Contest	1800Z-2359Z, Jan 7
+ ARRL RTTY Roundup	1800Z, Jan 7 to 2400Z, Jan 8
+ EUCW 160m Contest	2000Z-2300Z, Jan 7 and 0400Z-0700Z, Jan 8
+ DARC 10-Meter Contest	0900Z-1059Z, Jan 8
+ Midwinter Contest	1000Z-1400Z, Jan 8
+ QRP Fox Hunt	0200Z-0330Z, Jan 11
+ Phone Fray	0230Z-0300Z, Jan 11
+ CWops Mini-CWT Test	1300Z-1400Z, Jan 11 and 1900Z-2000Z, Jan 11 and 0300Z-0400Z, Jan 12
+ AWA Linc Cundall Memorial CW Contest	2300Z, Jan 11 to 2300Z, Jan 12 and 2300Z, Jan 14 to 2300Z, Jan 15
+ NCCC RTTY Sprint	0145Z-0215Z, Jan 13
+ QRP Fox Hunt	0200Z-0330Z, Jan 13
+ NCCC Sprint	0230Z-0300Z, Jan 13
+ Old New Year Contest	0500Z-0900Z, Jan 14
+ UBA PSK63 Prefix Contest	1200Z, Jan 14 to 1200Z, Jan 15
+ North American QSO Party, CW	1800Z, Jan 14 to 0559Z, Jan 15
+ NRAU-Baltic Contest, SSB	0630Z-0830Z, Jan 15
+ NRAU-Baltic Contest, CW	0900Z-1100Z, Jan 15
+ Run for the Bacon QRP Contest	0200Z-0400Z, Jan 16
+ QRP Fox Hunt	0200Z-0330Z, Jan 18
+ Phone Fray	0230Z-0300Z, Jan 18

*January Contest Calendar - Continued on page 30*

## January 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)

*January Contest Calendar - Continued from page 29*

+ CWops Mini-CWT Test	1300Z-1400Z, Jan 18 and 1900Z-2000Z, Jan 18 and 0300Z-0400Z, Jan 19
+ NAQCC CW Sprint	0130Z-0330Z, Jan 19
+ NCCC RTTY Sprint	0145Z-0215Z, Jan 20
+ QRP Fox Hunt	0200Z-0330Z, Jan 20
+ NCCC Sprint	0230Z-0300Z, Jan 20
+ LZ Open Contest	1800Z-2200Z, Jan 20
+ Hungarian DX Contest	1200Z, Jan 21 to 1159Z, Jan 22
+ North American QSO Party, SSB	1800Z, Jan 21 to 0559Z, Jan 22
+ ARRL January VHF Contest	1900Z, Jan 21 to 0359Z, Jan 23
+ WAB 1.8 MHz Phone	1900Z-2300Z, Jan 21
+ Feld Hell Sprint	2000Z-2359Z, Jan 21 (EU/AF) and 2300Z, Jan 21 to 0259Z, Jan 22 (ENA/ESA) and 0200Z-0559Z, Jan 22 (WNA/AS/OC)
+ SKCC Sprint	0000Z-0200Z, Jan 25
+ NAQCC CW Sprint	0130Z-0330Z, Jan 25
+ QRP Fox Hunt	0200Z-0330Z, Jan 25
+ Phone Fray	0230Z-0300Z, Jan 25
+ CWops Mini-CWT Test	1300Z-1400Z, Jan 25 and 1900Z-2000Z, Jan 25 and 0300Z-0400Z, Jan 26
+ UKEICC 80m Contest	2000Z-2100Z, Jan 25
+ NCCC RTTY Sprint	0145Z-0215Z, Jan 27
+ QRP Fox Hunt	0200Z-0330Z, Jan 27
+ NCCC Sprint	0230Z-0300Z, Jan 27
+ CQ 160-Meter Contest, CW	2200Z, Jan 27 to 2200Z, Jan 29
+ Montana QSO Party	0000Z-2400Z, Jan 28
+ REF Contest, CW	0600Z, Jan 28 to 1800Z, Jan 29
+ BARTG RTTY Sprint	1200Z, Jan 28 to 1200Z, Jan 29
+ UBA DX Contest, SSB	1300Z, Jan 28 to 1300Z, Jan 29
+ Winter Field Day	1900Z, Jan 28 to 1900Z, Jan 29



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

w2mmd.org



Facebook Page





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>Historian</b> <b>Summer Family 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>Jeffrey Garth, KC2WCS</b> <b>Jim Wright, N2GXJ</b> <b>Jim Wright, N2GXJ</b> <b>Darrell Neron, AB2E</b>

## GCARC <at> Mailman <dot> QTH <dot> 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)

#### **Temporarily Off-The-Air**

Output: 442.100 MHz  
Input: 447.100 MHz  
Offset: +5 MHz - PL: 131.8 Hz  
System Fusion (C4FM) Only

#### **Temporarily Off-The-Air**

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°

#### **Intermittent Operation Will be replaced soon**

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°

### Area Repeater Nets

**SKYWARN™ Net**  
Sunday @ 1945: 147.180 MHz

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

Question Pool Answers :  
G1D10:B; G1D11:D; G1E01:A; G1E02:D; G1E03:A  
G1D05:D; G1D06:A; G1D07:C; G1D08:B; G1D09:C;

### Meeting Calendar

#### ***General Membership Meeting***

Wednesday, January 4, 2017 @ 1930 Hours  
Pfeiffer Community Center  
301 Blue Bell Road  
(Main Street and Blue Bell Road)  
Williamstown, NJ

#### ***Board of Directors Meeting***

Wednesday, January 18, 2017 @ 1900 Hours  
GCARC Clubhouse  
Gloucester County 4-H Fairgrounds  
235 Bridgeton Pike (Rt 77), Mullica Hill, NJ

### **January 4, 2017 Meeting**

#### ***APRS...Beyond Position Data***

**Presented by John K2ZA,  
Chuck KD2EIB, Tony W2WCC,  
and Todd W2STR**

