

THE Propagator



Garden State Amateur Radio Association

W2GSA

SEPTEMBER

2018

8 Donner St.,
Holmdel, NJ 07733



Propagator Editor:
Bob Buus, W2OD

Propagator Design &
Production:
Cy Stanway, K2CYS

www.gsara.club
www.w2gsa.org

Please visit the club website
and feel free to use our open
repeater.



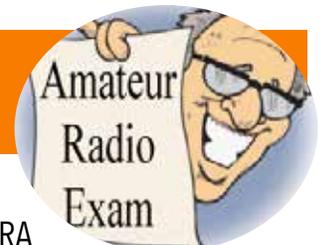
GSARA MEETINGS



The next GSARA meeting will be on Wednesday, September 5 at 7:30 PM at the Red Cross. This will be a program meeting and the program will feature Ria Jairam, N2RJ who is running against Mike Liscenco, N2YBB for Hudson Division Director this fall. (Mike will be at our October 3 meeting.) Guests are welcome and refreshments will be served.

The second meeting in September will be held on Wednesday, September 19 at 7:30 PM at the Red Cross. This will be a regular business meeting. Guests are always welcome and refreshments will be served.

VE SESSIONS



The GSARA monthly test session will be held at the GSARA Hamfest at MOESC on Saturday, September 22 at 11 am. The fee is \$15 and you should bring the original and a copy of any amateur license presently held and the original and one copy of any credit (CSCE) forms that you have (copies will be sent in with your test results). Also bring 2 forms of ID with one being a photo ID. For more information, contact Rich Bilon, N3RB at 732-972-1397 or n3rb@arrl.net.

Home of the W2GSA open repeater - FM and Fusion (WIRES-X)
(Analog FM) 146.045 +.600 - (C4FM) Node 43360 PL 63 Hz



GARDEN STATE
AMATEUR RADIO ASSOCIATION



HAMFEST

Saturday September 22, 2018
8 a.m. to 12 p.m.

MOESC Parking Lot
100 Tornillo Way (off Shafto Road)
Tinton Falls, NJ 07712

ADMISSION:

VENDORS 7 a.m.

\$5 admission fee

first parking space FREE with admission
\$10.00 each additional space

BUYERS 8 a.m.

\$5.00 admission fee per person



- VE session starts at 11:00AM
- QSL card checking
- Entertainment
- Food and hot and cold beverages
- 50/50s and door prizes
- Demonstrations
- Talk-in—W2GSA REPEATER: 147.045 + PL 67

For Additional Information and Pre-Registration:

Art Olson N2AJO 848-459-5590
Denis Commette K2NPT 732-740-3057

Email to: HAMFEST@GardenStateARA.Org
[http:// www.gsara.club](http://www.gsara.club)





From the Editor

Bob Buus, W2OD

I'm looking forward to our September 5 meeting to see what Ria Jairam, N2RJ has to say about how she would serve as Director of the ARRL Hudson Division. Her QRZ website is quite impressive so she might give Mike Lisenco, N2YBB some serious competition at the upcoming election. Although Mike provided a welcome change when he was first elected as Hudson Division

Director, there are some who think that he is no longer listening to his constituents as much as he used to (this often happens with incumbents). Anyway, we are fortunate to be able to hear what Ria has to say on September 5 and then hear from Mike at our October 3 meeting before voting for the next Hudson Division Director.

We have two local hamfests coming up in September and they are only a week apart. The OMARC Hamfest is in Spring Lake Heights on Saturday, September 15 followed by our own GSARA Hamfest at the MOESC parking lot in Tinton Falls on Saturday, September 22. I encourage all of you to try to attend at least one of these Hamfests and attending both would be even better. If you are a GSARA member, your volunteer help at the Hamfest is much appreciated. Only through volunteers can the Hamfest be successful!

Before I started researching the article in this issue about Armstrong and his invention of the super heterodyne receiver, I assumed that Armstrong was the undisputed inventor. Then as I dug into the facts in more detail, it appears that the Frenchman Lucien Levy came up with the idea several months before Armstrong did. The ensuing legal battle became rather nasty with Levy teaming up with De Forest to try to defeat Armstrong.

Armstrong **should** have invented the super heterodyne since from his experiments in 1916, he probably knew more about heterodyning two frequencies than anyone else at that time. He also understood the limitations of vacuum tubes at higher frequencies so it is only natural that he would solve the problem of obtaining high gain receivers at the higher frequencies. Armstrong also published his findings in great detail so most of the world felt that he had indeed invented the super heterodyne receiver. Both men were financially rewarded for this invention but it is a shame that Levy does not get the credit he deserves outside of France.

As always, I appreciate feedback or material for The Propagator. The deadline for the October issue is September 15.



Now You Know!



EDWIN ARMSTRONG AND THE SUPERHETERODYNE RECEIVER

By Bob Buus, W20D

After inventing the regenerative receiver and graduating from Columbia University, Armstrong immersed himself in teaching and experimenting in the well-equipped engineering laboratory of the university. During 1916, he spent considerable time exploring the properties of heterodyning which is the combining of two or more sine waves to produce additional sine waves at different frequencies. It was known back in the Middle Ages that when two audio tones close to the same frequency are present, a "beat" frequency of the difference in the two frequencies is produced. This principle is used to tune musical instruments.

In 1905, Reginald Fessenden used this "beat" principle to send CW dots and dashes to a rectifying detector by sending the keyed CW signal on one frequency and a continuous carrier at the same power on a frequency about 1 kHz removed from the keyed frequency. It was later determined that the same effect could be obtained by having the offset continuous oscillator (called a Beat Frequency Oscillator or BFO) at the receiver.

From 1912 to 1915, several radio engineers explored the theoretical explanations of heterodyning and showed that the mixing of two sinusoidal signals resulted in the production of new frequencies at the sum and difference frequencies of the original signals. Armstrong explored these characteristics using different types of frequency mixers and presented his results to the IRE in October 1916.

When the United States entered World War I in April 1917, Armstrong enlisted in the Army Signal Corps with a

commission of Captain and was sent to France to be in charge of the Radio Group of the Research Section of the Division of Research and Inspection for the American

Expeditionary Forces. While en route, he was delayed by fog on the English Channel so detoured to London to visit the Marconi Company. There he was shown a tuned RF amplifier utilizing 11 stages of amplification using 11 specially designed triode vacuum valves that could amplify signals with wavelengths as short as 200 meters (1.5 MHz). These amplifiers were used in sensitive direction-finding stations to monitor the low-power "buzzer" spark transmitters used by the Germans for local ship-to-ship communication. Ordinary triodes of that day could not provide gain at such high frequencies.



E. H. ARMSTRONG
discoverer of the "feed-back" circuit, in the uniform of a major in the Signal Corps during the war

One of the problems that Armstrong worked on in France was to build a very sensitive receiver direction-finding receiver that could tune from 500 kHz to 3 MHz to try to track German warplanes by listening to their ignition noise. Instead of using the special tubes that the Marconi Company designed, Armstrong got the idea to heterodyne the received signal down to a low intermediate frequency and produce the required high gain with conventional triode vacuum tubes. Thus, the first supersonic heterodyne receiver was built with an IF frequency of about 25 kHz. When the war ended, Armstrong, now promoted to Major,

returned to the United States and applied for a patent for his supersonic (sometimes called superaudible) heterodyne receiver.

Back in the states, Armstrong delivered several papers describing his supersonic heterodyne receiver (the name was changed to super heterodyne in 1921). Because of all of the papers published and delivered by Armstrong, he was and continues to be regarded as the inventor of the super heterodyne receiver.

Armstrong sold his patent rights to the super heterodyne and regenerative receivers to Westinghouse for \$335,000 with an additional \$200,000 if the courts ruled in favor of Armstrong's patent in his fight with De Forest.

Also during the War, Lucien Levy, a French officer with the Telegraphie Militaire, was working on ways to transmit secretly. He came up with the idea of modulating the RF carrier wave with a supersonic wave that would contain the information to be transmitted. It didn't work as he had hoped but he later found that the supersonic wave could be applied at the receiver and thus also invented the supersonic heterodyne receiver. Levy applied for a French patent on August

4, 1917. Since Levy's patent had a different purpose than Armstrong's and the claims were different, both patents were issued. Levy sold his American patent rights to AT&T for \$20,000.

When AT&T learned of Armstrong's patent, they found that it paralleled Levy's patent and asked Levy to file an interference claim against Armstrong. This went to the courts and finally, in 1929, it was ruled that Levy preceded Armstrong by seven months and thus was the official inventor of the super heterodyne receiver. Although there have been charges on both the Levy and Armstrong sides that the other had stolen the super heterodyne idea from the other, there is no evidence that either man was aware of the activities of the other. It most likely was a case of two people coming up with the same idea at essentially the same time.

So now you know!

OMARC HAMFEST SEPTEMBER 15

Don't forget that OMARC is holding a Hamfest on Saturday, September 15, the week before our GSARA Hamfest. It's at the Spring Lake Heights Fire Company No. 1 at 700 Sixth Avenue in Spring Lake Heights. Gates open for buyers at 7:30 am and the admission fee is \$5. Call in is on the OMARC repeater on 145.110, -600, CTCSS 127.3.





Help needed for events

The September 22nd Hamfest is coming up and we need YOUR help in staffing the tables, taking tickets, staffing the gate, and so forth. PLEASE SIGN UP TO DO A TASK USING THE LINK BELOW. Everyone's help is needed in making this a successful event. The link is live so you will be able to see who else has signed up and is instantly updated.

<https://docs.google.com/spreadsheets/d/1keuBvLJesrl89bfDLUFd2jp2e7ZxxbEzLkgOSDxXLvc/edit#gid=0>

Hamfest

September 22nd ALL hands Needed
Hamfest@gardenstateara.org

Twin Light Bike Tour

September 30th 6-8 Operators Monmouth County
Howard W2HTS@arri.net

JDRE (Juvenile Diabetes)

October 7th 3-6 Operators Avon Tom N2VFK@verizon.net

CROP Walk

October 21st 6-8 Operators Red Bank Tom N2VFK@Verizon.net

Even if you are unsure of your skills operating, this should not be a concern as we will pair you with an experienced operator. Please help us help our community with these important events.

PROJECTS BY OUR MEMBERS



Congratulations to John, KA2F on his new home and his new station!



Congratulations to Denis, K2NPT on his new beam and tower.

*WORKING ON A PROJECT YOU WANT TO SHARE WITH THE CLUB?
SEND IT TO [K2CYS@ARRL.NET](mailto:k2cys@arrl.net) WITH A DESCRIPTION AND PICTURE
AND WE WILL GET IT INTO THE PROPAGATOR.
SHARE THE JOY! SHARE THE PRIDE!*

Photos from the around the club

Harry, KD2EJW



Denis, K2NPT, talks tech with some members. John, AF2K, is in the background thinking deep thoughts!



John, KC2YWL, makes a point



Howard, W2HTS, leading the meeting as the President



Joe, WA2JOE talks about the September presentation

JOHN HOLDEN, N2OWN - SK

Past GSARA member John E. Holden, N2OWN, of Old Bridge, passed away on Friday, July 20, 2018 at the Madison Center in Old Bridge, NJ. He was 59 years old. Born in Perth Amboy, he lived in Lawrence Harbor and Aberdeen Township. John played wheelchair basketball with the New Jersey Blue Devils. Many people knew him as N2OWN on Ham radio, and as Major Holden in Civil Air Patrol. John worked as a police dispatcher for Old Bridge, Matawan and Aberdeen Township. John was active using amateur radio at various Public Service events.



He was predeceased by his older brother, William Holden and a sister, Patricia Pelo. He leaves behind his brother, Frank Holden, sister-in-law, Carol Holden and nieces, Jennifer and Sara all of Rumson; ex-wife, Jeri Holden of Morganville; his deceased brother, William's family in Texas; sister-in-law, Carol Holden and nieces, Danielle and Christine; niece, Dawn McCauly and her husband, Patrick, and their child, Ashley; nephew, Paul Pelo; and friends and staff at Madison Center. He will be missed.

The funeral service was on July 27 at the Waitt Funeral Home and Interment was private. For information or to offer condolence messages to the family, visit www.waittfh.com.

Welcome New GSARA Members!

Please welcome Gregory Irish, KD2QHF to the GSARA. Gregory lives in Matawan and recently received his Technician license. He is not yet on the air but has joined ARRL. Listen for him when he gets on the air and add to your roster:

Gregory Irish, KD2QHF
P.O. Box 110
Matawan, NJ 07747
732-320-5207
gregoryirish@optonline.net

Also welcome Tom Foster, KD2QDK from Middletown. Tom recently received his Technician license and is not yet on the air but listen for him on the repeater. Please add to your roster:

Tom Foster, KD2QDK
114 Morningside Ave.
Middletown, NJ 07748
973-271-0172
tfoster216@gmail.com

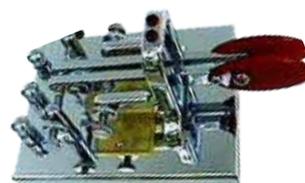
More Moments from the Meetings

Photos by Harry Zuzuro, KD2EJW



The first meeting in August was a meeting filled with Fusion WIRES-X questions and answers. Our new repeater is up and running and getting lots and lots of use. Denis, K2NPT and Art, N2AJO spent time presenting the basics of the system, how to access it, which radios to use, and the changes from the well-known FM system that will take a bit of getting used to. All in all a very informative evening.

..and speaking of the new Fusion WIRES-X repeater, there is some talk about having a Fusion net on the repeater. Details are still being worked out. Watch the Propagator and the club website for announcements and details.



ARNOLD PETERSON, AB2N DONATION

GSARA member Arnold Peterson, AB2N has moved to Montana and has donated the following equipment to GSARA:

Dentron MLB 2500B 2kW Linear Amplifier with manual wired for 240 VAC but can be changed to 120 VAC.

Hammarlund HQ-170 Communications Receiver with manual.

MFJ-407D Deluxe Electronic Keyer with manual.

Once checked out, they should bring a pretty penny to the GSARA treasurer. THANK YOU Arnold, for your generous gift!

GSARA Hamfest September 22

Mark your calendar now to reserve time to attend (and possibly work at) the GSARA Hamfest which will be held on Saturday, September 22 at our usual location in the MOESC parking lot about a mile north of the Red Cross. Take a look on page 9 and you can see the flyer with all the information. Now is a good time to inventory what you might want to sell or make a list of what you might want to buy. The Hamfest may fill all your needs!

ARES/RACES NET

Did you know that there is an ARES/RACES net on the W2GSA repeater on the first and third Mondays of each month at 8 PM local time? You don't have to be a member of ARES or RACES to check into the net. We all should be comfortable with checking into a formal net as we never know when we might be called upon to help with communications in an emergency. All are welcome. Check it out!



Tuesday Net Report

The Tuesday night net meets every Tuesday on W2GSA repeater at 8:30 PM.

Everyone is most welcome and you don't need to be a member of the club.

In the 5 sessions from July 31 through August 28 we had 70 check-ins for an average of 14 per session. The following 25 members checked into this net (number of check-ins in parenthesis):

N2JFL (5), K2MFS (5), W2OD (5), N2HGI (4), AD7I (4), W2MJP (4), K2NPT (4), WB2RPW (4), N2BMK (3), KD2EJW (3), KD2EPA (3), WA2JOE (3), KD2OXR (3), KG2CM (2), NF3E (2), KA2F (2), N2FSB (2), AC2MB (2), N2MEP (2), KD2PYO (2), K2RLF (2), N2BCS (1), W2HTS (1), KB2MAB (1) and K2REM (1).

Mark your calendar so you remember to participate. The more participation, the more fun!





FROM THE ARCHIVES

FIVE YEARS AGO

From the September 2013 Propagator: The daughter of George Graulich, K2EPD has been diagnosed with a rare condition known as a Desmoid Tumor. GSARA donated \$500 to the Foundation to fight this disease. Silent keys included former member Mike Ruggiero, W2NVR and Tom Christian, VP6TC/VR6TC from Pitcairn Island. Thanks to the efforts of John, KA2F, W2GSA was active in the NJ QSO Party in July and racked up 3,344 points on phone and CW.

TEN YEARS AGO

From the September 2008 Propagator: With the closing of Fort Monmouth, GSARA needs a new meeting place. The best candidate was found by Howard, W2HTS and is the Red Cross Regional Headquarters in Tinton Falls. The first meeting in September will be held there to see how members like the accommodations. Silent keys included Glen Harris, WA2TPL from Neptune and John Kakstys, W2FNT from Linden who sold and traded amateur radio gear. The Smithsonian Institution's amateur station NN3SI has been shut down for lack of space.

FIFTEEN YEARS AGO

From the September 2003 Propagator: GSARA was preparing to move our monthly meeting place from Bicentennial Hall to the MARS station at Ft. Monmouth. The September meeting will be the last one at Bicentennial Hall in Fair Haven. Broadband over Power Line (BPL) was a big issue and the ARRL filed reply comments to the FCC's Notice of Inquiry. ARES responded well to the August 14 blackout that affected several eastern states.

TWENTY YEARS AGO

From the September 1998 Propagator: GSARA ran a Lighthouse Special Event station at Twin Lights on August 22 and 23. We made 692 contacts. The event included a barbeque picnic prepared by Nena, N2WAY-SK. The GSARA Hamfest is coming up on September 20 at Veteran's Park in Hazlet. Gary Palamara, KB2YTN -SK had an interesting 1 ½-page article about license

restructuring and about the role the late Barry Goldwater, K7UGA-SK played regarding amateur radio.

TWENTY-FIVE YEARS AGO

From the September 1993 Propagator: New member Steve Hajducek, N2CKH reported that the ATV repeater at Brookdale College should be on the air soon. Roy Edwards, KB2LUO played a tape called "The Last Voice from Kuwait" at the July 7 meeting. Andrea Copp, N2LAL was in the hospital for kidney stones but is now home and recovering. An ARES honor roll was published listing (among others) Roy, KB2LUO; Don, KB2CMF; Kevin, KB2OXR; Bob, W2OD; Bruce, K2QXW; John, K2EOB; Joe, WA2GSY; Richard, N2SMV; Robert, WB2KNS; Jeff, N2LXM; and Frank, KA2DRV. Legislation was passed that authorizes the FCC to issue vanity call signs at a cost of \$7 per year. It will probably take a year or more before it can be implemented.

THIRTY YEARS AGO

From the September 1988 Propagator: The final total Field Day score was 2130. We made 207 CW contacts and 251 on phone. The FCC took final action on the 216-225 MHz band granting maritime mobile to 216-220 MHz, land mobile to 220-222 MHz and exclusive amateur service from 222-225 MHz (amateurs previously had 220-225). John King, KA2F offered his VIC-20 computer and VIC 1525 Printer for sale. Vince, KE2V was coordinating GSARA volunteers to provide communications for the Sandy Hook Sport Triathlon in September.

THANKS, SAL BERNARDO, K D2 O X R DONATION!

**A big THANK YOU to Sal Bernardo, KD2OXR for his generous donation of a Dell laptop computer to GSARA.
It will be put to good use!**

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732-460-1885

w2hts@arrl.net

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732-889-6692

rh@thetraindoctor.com

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w2od@arrl.net

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GSARA Swag 'n Such

GSARA Patches

We have GSARA patches available at all meetings and they are \$3. Show your GSARA pride!

GSARA News

Keep up with GSARA news at the GSARA website:

www.gsara.club

www.w2gsa.org



Blue Swan Diner Eyeball QSO!

A number of local radio amateurs meet each Friday at the Blue Swan Diner on Highway 35 south in Ocean Township at noon. Anyone interested in amateur radio is welcome to join us in the back left corner of the diner.





Garden State Amateur Radio Association

Tinton Falls, New Jersey



W
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Become a Member Today!



MEMBERSHIP HAS ITS PRIVILEGES!

The GSARA has some great visions, including, but not limited to:

- Elmer Program
- Field Day
- Lighthouse Weekend
- Jamboree on the Air
- Youth Outreach
- Kit building events
- Saturday shack opening
- Hamfests
- Community event displays

MEETINGS

The GSARA meets at 7:30 pm on the first and third Wednesdays of every month at the Red Cross on the corner of W. Park Avenue and Shafto Road in Tinton Falls, NJ. Guests are always welcome!

REPEATER & NODES

The GSARA operates a VHF repeater on 147.045 +, PL=67.0 located near Asbury Park. GSARA also operates a packet node and BBS on 145.05 MHz as W2GSA-4. This is located on the UPS tower in Tinton Falls.

About GSARA

The Garden State Amateur Radio Association, Inc. (GSARA) is a ham radio club dedicated to advance the art, science and enjoyment of amateur radio. We have a very diverse group with varied interests. Some of us are interested in operating, some like CW (Morse Code), some like SSB (voice), others like to build things or use digital modes including Fusion and Wires-X or communication via amateur satellites and some just like the technical aspects of the hobby. We meet twice a month to share a program, meet old and new friends, share our latest ham radio conquests or achievements or simply ask a question.

We welcome new members to our club and encourage their participation in club activities. It is through this participation that the club keeps in touch with the innovations affecting our hobby and how these changes can be adapted to improve the experience for our members. Supporting the club entitles you to use the radio shack on Saturdays (it is usually open), have a vote on the direction of the club and participate in all club events. Your membership helps the club maintain the radios, which include the repeater, purchase new equipment and maintain our radio room with up-to-date equipment.

Please join us and play a role in the ongoing communications revolution. It is the best \$15 you will ever spend! Please feel free to attend any meeting and meet the men and women of the GSARA!

Find Us on Social Media:

GSARA on
Twitter



GSARA on
Facebook



www.gsara.club

Club Benefits

W2GSA CLUB NET

The GSARA weekly net meets each Tuesday evening at 8:30 on the GSARA repeater. Everyone is welcome to hear news of upcoming club events and activities, reports of the latest club news and everyone can share what they have been up to. Please join us. The more participation, the more fun!



GSARA.CLUB W2GSA.ORG

Have you seen the GSARA website lately at <https://www.gsara.club/>? Check it out often for updates, news, announcements and general club information. If you have not yet done so, send us a picture of your shack and a selfie for the Members; Shacks and Our Members page. There is also a new feature: there is a Members Only Page which will contain important links viewable by GSARA members only including the most current roster and, in the coming months, the previous month's minutes from the meeting. Send your selfies to Cy, K2CYS at k2cys@arrl.org. Do you have any other great ideas for the site? Let Cy know.

QSL BUREAU

If any GSARA members wish to combine their QSL cards that are going through the outgoing ARRL Bureau, please bring them to the next GSARA meeting along with the label from a recent QST Magazine (you must be an ARRL member to participate in this program). Either John, KA2F or Len, WA1PCY will then send them on to ARRL at no charge to GSARA members. It couldn't be much easier than that to QSL. You are registered at the W2 incoming bureau, aren't you?



NOTES ON CALENDAR (see next page)

- Large Call letters denote birthdays e.g. **KD2FZN** September 14. All times are EDST. Contests are listed in the September QST, p. 83.
- Aug. 31-Sept. 2 – **All Asian DX Contest**, Phone from 8 pm Fri. to 7:59 pm Sun. See <http://www.jarl.org/english>
- September 3 – **Labor Day**, no Monmouth County ARES/RACES Net at 8:00 pm
- September 4 – **Old Barney VE Test Session** at 6:30 pm in Manahawkin. Contact Urb Le Jeune, WIUL at 609-296-5856 or urb@w2dec.com
- September 4 – **Old Barney ARC Meeting** at 7:30 pm in Manahawkin, NJ. See <http://www.obarc.org>
- September 4 and every following Tuesday – **GSARA Net** on 147.045 PL=67 at 8:30 pm.
- September 4 and every following Tuesday – **QCWA News Net** on 147.045 PL=67 at 9:00 pm.
- September 5 – **GSARA Program Meeting**. The program will feature Ria Jairam, N2RJ who is running against Mike Lisenco, N2YBB (who will be at our October 3 meeting) for Hudson Division Director. Come and hear how Ria will represent us at the ARRL. Refreshments will be served. Don't miss it!
- September 6 - **HCARC Meeting** 7 pm at Holiday City South Clubhouse in Toms River.
- September 7 and every Friday – **Lunch at the Blue Swan Diner** in Ocean at noon. Table at back left.
- September 7- **WIAW Qualifying Run** at 10 pm (10-35 wpm). See September 2018 QST page 97 and www.arrl.org/qualifying-run-schedule
- September 8 – **OMARC Meeting** at 9:00 am at the Firehouse on 600 Sixth Ave. in Spring Lake Heights. Guests are always welcome.
- September 8-9 – **ARRL VHF Contest**, all modes from 2 pm Sat. to 11 pm Sun. See <http://www.arrl.org/september-vhf>
- September 8 – **North American Sprint**, CW from 8 pm to midnight. See <http://www.ncjweb.com>
- September 12– **Holiday City VE Session** at 7 pm in Toms River. Contact is Larry Puccio, K2QDY at 732-349-2950 or e-mail at lpuccio1@comcast.net
- September 13 – **JSARS meeting** in Riverwood Park Rec. Building, Rt. 527 and Riverwood Drive at 7:30 pm.
- September 15-16 – **All Africa DX Contest**, all modes from 8 am Sat. to 8 am Sun. See <http://www.sarl.org.za>
- September 15-16 – **New Jersey QSO Party**, CW and Phone from noon Sat. to 4 pm Sun. See <http://www.k2td-bcrc.org/njqp>
- September 17 - **Monmouth County ARES/RACES Net** meets on 147.045 +600, PL=67.0 at 8:00 pm
- September 19 – **WIAW Qualifying Run** at 7 pm (10-35 wpm). See September 2018 QST page 97 and <http://www.arrl.org/qualifying-run-schedule>
- September 19 – **GSARA Meeting** at 7:30 pm at the Red Cross in Tinton Falls. Regular business meeting. Refreshments will be served.
- September 20 – **JSARS VE Test Session** at 7:00 pm Riverview Park Recreation Bldg., Rt. 527 and Riverwood Drive in Toms River. Contact Ed Genoino, WA2NDA at 609-971-2792 or wa2nda@comcast.net.
- September 22 – **GSARA Hamfest** at our usual location at the MOESC parking lot. Sellers admitted at 6:00 am and buyers at 7:00 am. Admission is \$5 per person.
- September 22 – **GSARA VE Test Session** at 11 am at the Hamfest at MOESC. See page 1.
- September 28-30 – **CQ Worldwide DX Contest**, RTTY from 8 pm Fri. to 7:59 pm Sun. See <http://www.cqwwrtty.com>

SEPTEMBER 2018

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					All Asian DX	All Asian DX ¹
All Asian DX ²	Labor Day No ARES/RACES ³	Old Barney GSARA Net 8:30 QCWA News 9 PM ⁴	GSARA Mtg ⁵	HCARC Mtg ⁶	Blue Swan lunch CW Qual. Run ⁷	OMARC Mtg VHF Contest NA CW Sprint ⁸
VHF Contest ⁹	¹⁰	Old Barney GSARA Net 8:30 QCWA News 9 PM ¹¹	Hol. City VE ¹²	JSARS Mtg ¹³	KD2FZN Blue Swan lunch ¹⁴	N2AJO OMARC Hamfst Africa DX NJ QSO Pty. ¹⁵
Africa DX NJ QSO Pty. ¹⁶	ARES/RACES 8 pm ¹⁷	Old Barney GSARA Net 8:30 QCWA News 9 PM ¹⁸	CW Qual. Run GSARA Mtg ¹⁹	JSARS VE ²⁰	Blue Swan lunch ²¹	GSARA Hamfest GSARA VE ²²
²³	²⁴	KD2HUE ²⁵ WB2RPW Old Barney GSARA Net 8:30 QCWA News 9 PM	²⁶	²⁷	Blue Swan lunch CQ WW RTTY ²⁸	KC2YWL CQ WW RTTY ²⁹
N2VFK CQ WW RTTY ³⁰						



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