

# ARC-SHORTS

November, 2013

Club Repeaters: 147.315 (PL 107.2), 444.6 (PL107.2), 224.82 (PL107.2), 53.13 (PL107.2) Down for replacement, 927.6 (-25Mhz, PL107.2), and 1282.600 (PL 107.2), DSTAR 145.38Mhz, 442.060, and 1284.600

## NEXT CLUB MEETING

Our next meeting is **NOVEMBER 8th** at the Alexandria City's Emergency Operations Center at 3600 Wheeler Ave. We will meet in the Community Room on the first floor. Parking is the public lot right in front of the building.

This month's program will be from Tim, KT4MV. Topic is up to Tim.

DINNER before the meeting is usually an informal get together at Atlantis Restaurant. As we need to start the meeting at 7PM we usually start gathering at the restaurant about 5:30 plus / minus.

## OCTOBER MEETING MINUTES

ARC Meeting, was held on October 11th . The program was presented by from Tom Dundzila KK4NMP, who presented a great program on how HF radio was used in the past to provide education for kids living in the Australian outback. Many of us are still trying to figure out what the radios were and who made them?? Tom, thanks for a very entertaining and informative program.

## President's Corner

Fall is upon us, and hopefully, the static crashes of summer will leave us for a while. Those of us who are active in the HF spectrum should love the winter.

One reason I've been told that some of our members aren't active in the HF region is a very common one:

A lot of people in this area live in apartments which act like Faraday cages, or houses where antennas are forbidden. Of course, it doesn't help that HF radios start at about \$600. I hope to be able to report my experiences using a couple of different portable antennas to the club newsletter soon, which may help address the apartment/housing covenant problem, but keep in mind that some of our members have offered to help those without HF capability with their own stations. It is probably too late for a newbies- on-the-air session this year, but maybe in the spring we can get something together.

For those with VHF/UHF capability, please keep George Washington's Birthday on you calendar. On the Saturday before, we help out with the GW 10K Run, and there is room for members with HTs to assist.

Also, on the holiday itself, the city of Alexandria has the GW Birthday parade and asks the club members to assist. Aside from one mobile setup at the reviewing stand, and the radios in our trailer, the rest of the radios are HTs. We radio changes from the "final" version of the order of march from the marshaling areas to the trailer, so they can transmit the revised file to the reviewing stand. That way, the American Legion is not announced as Girl Scout Troop 104.

73,

-- Tom Kirby KJ4FUU  
President

Meeting called to order by President, Tom, KJ4FUU

### **NOVEMBER ELECTIONS**

It has been an interesting year and Tom has done a fantastic job as our President. We've had a very busy and productive year. I hope all had fun with the club and enjoyed the club as a very good social group that allows us to share our hobby.

Tom, Jeremy, Larry and Steve are all eligible to be re-elected and if they are willing to continue doing what they have been doing, I for one think that their re-election would be of benefit to the club. These are not easy jobs. After the November elections, we will have to appoint our committee leads: membership, training, trailer and programs. The ARES EC position is appointed by the District EC, but I also serve at the pleasure of the club so if there is someone who wants that job, I am willing to sit back for a while. If not I will continue.

It is very important that all members take the club's operation to heart and participate. We have, as all groups have, some differences, but being an august body, I would assume that these differences are honest in nature and that we can all do what is best for the club in the long run.

The club has a treasury well over anyone has ever thought we would be so large. We also have a great deal of capital equipment that has been either purchased by the club or donated by some of it's members. This material is controlled by our club trustee, Rick KA4GFY. Let's put our gear to use next year!

Please come out to the next meeting and participate!

73 Rick

N4ASX

### **November Program**

Our November program will be provided by Tim, KT4MV on methods of Fox (transmitter) hunting. Tim has been a real treat when it comes to good programs. Of course our December program is the annual Christmas party. This year it will be at MANGO MIKE'S. This has worked well for us the past few years and we almost lost this venue due to their problems with the lease.

Next year, we will try to have a few different programs to hold our interest and inspire us to do more with the hobby.

### **Hamfests –**

We have hit the time of year where there are not any hamfests within 100 miles or so of our area. The next hamfest in the area is the Maryland Mobileers hamfest in late January. Time to make that list of items to buy and items to sell at the hamfest.

### **Training -**

Our latest class started on October 1 with 15 students now enrolled. The exam date is December 10. If you are looking to upgrade, be sure to let me know so I can make sure to have enough General and Extra tests on hand. We are planning to start the next one in early March.

### **Contests**

November 2 through 4 – ARRL Sweepstakes, CW portion. Exchange is a serial number, precedence your call, year licensed and section. To decode this: serial number is self-explanatory. Your precedence represents your category. For most of use running 100 watts or so, we are “A.” If you are running 5 watts or less, you would be “Q.” Your callsign. Next is the check. The check is the last two numbers of the year you were first licensed. Last is your ARRL section. Most of us live in VA. So, for example, my QSO with N8IK would be: N8IK nr 001A KA4GFY 79 VA.

November 9 and 10 – Kentucky QSO Party. Exchange is RST and State.

November 16 through 18 – ARRL Sweepstakes, Phone portion. Same exchange as the CW portion.

November 23 and 24 – CQ Worldwide DX Contest, CW portion. Exchange is RS and CQ zone. We are in zone 5.

73,  
Rich, KA4GFY

## **Repeater Coordination 101**

As the trustee for the Alexandria Radio Club's license, I am periodically asked about how the process of putting a repeater on the air. The quick answer, obtaining equipment is the easy part. The hard part is coordinating the repeater. I'll explain what that is, but first, a little history.

In the early days of repeaters, people who pick a frequency and put a repeater on the air. This works great as long as we don't have two or more repeaters with the same frequency pair. Early HTs were often shipped with crystals for 146.520 simplex, 146.940 repeater and maybe 146.760 repeater. Guess what repeater frequency pairs were the most common? You guessed it, 94 and 76. The early radios didn't do CTCSS either. Repeaters that required CTCSS for access usually meant it was a closed repeater and the CTCSS board was an add-on.

In populated areas, it didn't take long for many (and I do mean many) repeaters to show up on those pairs. There were the now famous "repeater wars" in California. Something had to be done. So, hams themselves decided it was time to develop a process to prevent more chaos. A decision was made on which frequencies would be used for repeaters based on the FCC's rules. The country was divided into smaller regions and frequency coordinators were created. The Mid Atlantic Amateur Radio Council (TMARC) serves our area. Most coordinators serve several states, but a few serve only one state.

The coordinators' job is to assign the frequency pairs based on separating the proposed repeater from another on the same pair and adjacent pairs. This is based on many factors, such as the frequency, height of the antenna, power of the transmitter and gain in the antenna system. TMARC takes this information and processes the data. They then look for an open pair and send the proposed repeater pair and parameters to the neighboring repeater coordinators to see if they have any objections. If they do, those coordinators will tell TMARC what the problem is. Once that hurdle is cleared, TMARC then goes back to the individual or club that is looking to coordinate a repeater with the frequency pair and the operating parameters. It's possible that there are no pairs available. If approved, TMARC will give you a period of time to get the repeater on the air and show its working. These folks have been around repeaters a long time, so they understand what's involved.

In the spirit of self-regulating and self-policing, the FCC does not coordinate repeaters. The FCC would rather that we do it ourselves, i.e., an organization like TMARC. You can't put a repeater just anywhere and whatever pair. The FCC has, on many occasions, resolved an interference issue between two repeaters by siding with the coordinated repeater and a cease and desist order to the non-coordinated repeater.

Since we are into experimenting, TMARC has created a really cool concept called Shared Non-Protected (SNP) pairs that I don't see too many other places. There is a 2 meter pair and couple of 70 cm pairs that are dedicated to experimenting and temporary use. The SNP pairs are often used as part of a public service exercise when a repeater is needed, but there are none in the area

Just be prepared to accept any interference from other users. It's understood the SNP pairs are available for temporary use and experimenting. In many parts of the country, there are no 2 meter or 70 cm pairs left. We have no 2 meter pairs left and 70 cm pairs are disappearing fast.

Having said all that, repeaters are not cheap. If you are going to be a regular user, common courtesy is to offer financial support or physical labor to the individual owner or becoming a member of the club that owns the repeater. Also, say thanks to the folks at TMARC and the other coordinators. Without them and the hams that established them many years ago, we would not enjoy the thousands of repeaters we have today. Most importantly, use them!

73,

Rich, KA4GFY

### **Jamboree-on-the-Air (JOTA)**

#### EVENT UPDATE DISPATCH:

Don (KI4D) and Steve (W8RJH) reported having a great time this past weekend —great weather and met a bunch of young eager scouts!! Following article is a great recap of the day!

October 19th, 2013 – Boy Scout Troops 581, 1372 and 884, along with the Ole Virginia HAMS Club (W4OVH) from Manassas, Virginia hosted the worldwide Jamboree On-the-Air (JOTA) and Jamboree On-the-Internet (JOTI) operating from an outdoor venue in Bristow, Virginia.

Field expedient antennas were erected on-site to support the JOTA operations and Scouts from the area spoke on-the-air using High Frequency (HF) and Very High Frequency (VHF) radio systems. Regional communications were established with other participating Troops conducting similar JOTA field operations from Camps Highroad and Snyder, The Mountain Amateur Radio Club, Maryland and Sky Meadows, Virginia.

Wireless Hot Spots for internet connectivity were established on-site for the JOTI operations and an internet café was set up to support the JOTI chat rooms transmitting voice and text communications throughout the United States and Worldwide using the internet.

Seventy-one Boy Scouts, Cub Scouts, Venture Scouts and Scout Leaders from 15 different Troops/Packs/Crews participated in the 6-hour event logging more than 200 contacts with other Scouts from all over the country that included Virginia, Maryland, Pennsylvania, New Jersey, New York, Delaware, Wisconsin and California. Contacts were also logged from around the globe with England, Germany, South Africa, Croatia, Sweden, Norway, Denmark, Columbia, Venezuela, France, India, Portugal, Peru, Indonesia, Guyana, the Netherlands, Cyprus, Malta, Wales, the Philippines, Italy and many points in between.

This was the 56th year for the annual JOTA event and the 17th year for JOTI and it was the 4th year that Troop 581 hosted the events. All participating Scouts, young and old had the

opportunity to complete many of the requirements for the Radio Merit Badge and learn a lot about amateur (HAM) radio and emergency radio communications while earning the international JOTA/JOTI participation patch doing it.

### **HAM Radio at the Marine Corps Marathon (MCM), October 27, 2013**

Greetings from the Marine Marathon, like many of the MCM HAM operators, I arrived in the dark-of-night to take up my station. I was located at the distant end of the National Mall at the 18-mile marker, it was a great place to support using my ICOM IC-92 handheld. Across the Mall, at 18.5 mile marker was Rolf, KB3UZZ, who was gracious to come over to ensure we had a good handle on our stretch of the racecourse.

Once our opening QSL and net was established (one small net change!!), our radio signal was consistent for the remainder of the race. Our net-control folks did a great job of keeping us informed and we were able to support inquires, provide race updates, and track the runners. We had the advantage of watching the start of the 10K Race and watching the thousands of runners make the first turn. It wasn't long before we saw the first MCM race wheelchairs; many of the HAMs called out position of the first wheelchairs and runners. Although I approached and assisted dozens of runners who stepped aside, all were thankful for the support, but committed to continue. I shared the 18-mile marker with several U.S. Marines—I believe they provided the added support to *soldier-on*.

It was very moving to see the wounded warriors and their families navigate the course, it was a privilege to witness runners approach and thank our U.S. Marines—runners stopped for pictures and a few even gave them hugs!

A special thanks to Don (KI4D) for “elmer-ing” me through programming my radio and then walking me thru each to ensure they would key—turned out that last *charlie* frequency came in handy race day.

All-in-all it was a great day to be a HAM, helping runners and their family members to have a safe and memorable day. I will be back next year—hope to see you there or hear you on the ‘net.

73 DE Steve, W8RJH

### **ARES**

ARC's Communications Trailer

Back around 2003/4 timeframe a bunch of club members when to Dayton on the annual pilgrimage, and got to look at communications and emergency trailers and vehicles on display. The club embarked on a project to develop it's own communications trailer for use by the club in various activities and to support ARES. The Club's leadership also believed that this would give members something to work on to build team work. The original plan was to make the

trailer available to other amateur radio organizations as needed to support public service events, ARES drills and emergency operations.

The original configuration was based on the idea that individual members would bring their own radios and the trailer would provide 12 volt power, a place to sit out of the elements, roof mounted mobile antennas and access to antennas via a wall feed through. At that time a generator was seen as a 'too expensive' items, so when Mr. Tom Horne offered up 6 lightly used surplus 110Amp-Hour AGM batteries for the trailer at no cost, we jumped on them and the idea was that this would provide sufficient power to run for most operations. Two batteries were tied to each of three station feed points along with feeds to a roof antenna or to two wall feed through points. No one could, at that time, agree on a common power connector so banana jacks / binding posts were provided at each of the three stations.

A Samlex smart charger was installed to allow shore power charging of the batteries.

Sometime later, Mike and Tim KT4MV donated two Motorola radios, Jim (SK) donated a 6 meter Alinco FM radio and a marine band radio and Marshall KI4MWP donated an ID-1 and an ID-880 for D-Star operations. These radios were wired directly to the battery pack. Later a packet radio (Kenwood TM-D710A) and 220 Mhz radio were also donated.

Problems persisted with setting up radios and access to unused antennas. In 2013 it was determined that after 10 years, it was time to overhaul and upgrade the trailer. This was accomplished by the trailer committee. Rick, N4ASX, Rich, KA4GFY, Jeremy KF7IJZ, Ed, W4EDF, Doug, AK4QY, Liz ????, and John KK4RBB. The current trailer was a kluge of gear, a mast kit loss on the floor and lots of wires hanging around.

First was a need to replace our now dead batteries with some number of new batteries. The club is now the proud owner of a Honda 2KW generator so there is no need for 660 plus Amp-Hours of battery. It was decided that two Marine Deep Cycle lead-acid batteries were the most economical solution. This allowed us to remove the 6 85 pound batteries in the back and the 6 old Gel Cell batteries being stored in the nose of the trailer as ballast to balance the trailer. The generator will now live in the front of the trailer and balance the two new batteries when the trailer is towed.

With the use of AC power, the club was using two Astron power supplies. They took up space on the operating shelf and had to be plugged in. As part of the trailer upgrade these two power supplies were replaced by one Aston RM-60-BB that was mounted in the aft area of the trailer and can be turned on and off by accessing it through the door in the aft storage area. The BB is for Battery Backup, this is a simple float charge that takes the 13.8 Volt from the power supply, runs it through a diode to protect the power supply to the batteries. These diodes drop the voltage by .7 volts to 13.1 which makes the max voltage difference approximately .6 Volts. This is enough to top off the batteries without boiling them.

Doug AK4QY also installed the two solar panels on the roof to trickle charge the two batteries. In nominal sunlight each battery gets about a Amp of current. This should keep the batteries from draining to death between activities.

In the process of reworking the batteries and power supply, we found that the Samlex charger had died. Our guess is that it could not handle trying to charge 6 batteries where some of them were down to 6 volts. Doug AK4QY offered to take a look at it and see if he could repair the unit.

The new power supply is connected to a RIGRUNNER unit that supports two 40 amp circuits for a total load of 80 Amps. From the Rigrunner there are 10 gauge leads that go to 4 locations. One lead supports the 6 meter, 220MHz and Scanner, a Second supports the new TM-V71A that replaced the Motorola radio and two LED lights under the cabinets, the third supports the Kenwood TM-D710A, ID-1 and ID-880. A fourth will be installed to support HF radios.

Three of the leads have Anderson PowerPole buses so other items can be installed. Future additions to the power system will be a reinstallation of a smart battery charger, a switch on the power supply to allow the float charging system to be disconnected (so we can use the smart charger) and a digital volt meter will be installed on the power cabinet to allow operators to see the condition of the batteries and know when the power supply is operating correctly. The goal was to provide sufficient current, connections for current equipment and to allow for expansion and flexibility as needed with a minimum of interconnects and NO reason for ANYONE to make changes.

The originally donated Alinco 6 meter radio failed after several years and the club voted to replace it in 2013 as part of the overhaul. The replacement is a new Alinco radio that can run at 50 watts output and has an built in 1200/9600 TNC and has a GPS receiver added so that it can be used for Packet or APRS. The TM-D710A is also capable of 1200/9600 baud packet on 2 meters or 440 MHz and APRS. A Delorm GPS unit has been installed to provide it with APRS location as well. The TM-V71A is the same basic radio as the D710A allowing for ease of operation and if needed an RC-710A remote head can be added later to allow for PACKET and APRS capability. For the most part the V71A is the voice radio for 2 and 440MHz.

All of the radios are connected to the power system and to dedicated roof mount antennas. At some future point a coax switch may be installed to allow connection to external antennas.

Most ARES and public service activities run on VHF radios. But, we do use the trailer for Field Day and for Newbies on the Air and other club events. Before it gets too cold, we will install a RigRunner like box (Saratoga) with Anderson PowerPoles to allow two HF radios to be plugged into the power system and we will install a ball mount to allow an HF mobile antenna to be used.

Many of the trailers we saw had dipole antennas rolled up and ready for use on HF. We may have a few in the club. The military mast kit that was once stored under foot has now been put in

the broom closet. The committee determined that they did not trust the old ropes that came with the kit so we tossed them. We also have ONE SURPLUS office chair, for sale to the highest bidder. We found that three positions were too crowded so we have removed one of the three office chairs. One very nice office chair is now available to one of our members as part of the fund raising effort for the trailer.

Many hours of work went into this overhaul. I know that some of the investments in the trailer have caused some concern, but I think the club benefits from it as a great radio asset and a way to show, during events what the club is capable of.

73 Rick  
N4ASX

### **Marine Corps Marathon – EC Prospective**

While I'm on my soap box, I want to thank all of the members who participated in this years MCM. Rich and Cameron gave the trailer it's post overhaul shake down at Haynes Point and all worked well. The two new batteries ran the trailer for a few hours before they turned on the power supply, but the power supply, the solar cells and the generator provide all the power needed with just about all radios in operation. Ian N8IK, Harry N4CWP, John KK4RBB worked a few of the Aid Stations.

This year, John KK4RBB and I worked AID 2/3 up on the Rock Creek Parkway and expected to have RF problems, but that was not the case. The Digital team put up a relay and we had no problem with D-Star.

I have not scrubbed the list of those who worked the event, but I did see Bob Anderson at check-in and that was a job that starts at 3AM! Steve W8RJH worked his first MCM and his article is in this ARC SHORTS.

While we don't provide all of the communications for the MCM, The Marines do deeply appreciate our efforts.

73 Rick  
N4ASX

### **Social Events**

Monday Night Half Price Burgers – There is a group that gets together at Shooter McGee's (Duke and Paxton Streets) on Monday evenings at 6:15 PM. A good burger and soft drink runs about \$9.00.