

# ARC-SHORTS

JULY, 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 **JULY12** at the Alexandria City's new 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.

Our program this month will be Rol Anders K3RA who will discuss the set up of the W3AO 29A Field Day Station this year.

## JUNE MEETING MINUTES

ARC Meeting, 14 Jun 13

President, Tom, called meeting to order at 1900 at the Alexandria Police Hq Conf Room

ARES – Eric Parker, KG4DZA, with the Alexandria EMS provided a talk on the Department of Emergency Communications. Generally, it is considered that the City will be able to maintain communications for most of the situations they would be facing. There is still a need for ham radio assistance but we need to develop plans to address what activities the hams can be expected to join public safety support. Arlington and Fairfax are considering including ham radio with their public service CERT program. So far, Alexandria has not joined that concept.

Field Day – Jack/K5OZ reviewed the status of FD plans. The only action that is still open is the food. He is planning on collecting food this week and have our needs well satisfied by time of FD. We will be 5A. Try to keep radios operating the full 24 hrs, 1400 – 1400 Local 22-23 June.

What's Happening – Doug Rose/AK4QY discussed some work he has been doing using PIC chips. This has applications to APRS. ARRL has a publication relative to this subject.

Repeaters – 6 Mtr should be back on the air by end of summer. Needs controller.

2 Mtr – Some unknown issue is affecting the repeater. Appears to be related to moisture. Wet is good, dry is bad.

D-Star appears to be working well.

Manassas was considered to be smaller that last year. Still a lot of HR/Computer stuff. Tom/KJ4FUU, Club president presented the two plaques to winners. One in person, other in abstention.

What can we do to increase new ham participation in weekly nets, use of repeaters?

Antennas – Consider developing a work session to build J-Pole antennas out of twin lead. Harry will be lead on this effort. Possible at FD or as a program for a meeting.

Operating – Provide opportunities for nubies to operate at FD.

No other Old Business

New Business

Art Blank/WA7NB is going on an Expedition with several other hams to Robin Caruso Island with plans to be operating between 6 and 21 Nov 2013. The club will donate \$300 to the operation (Rick proposed, Jack seconded, passed)

Ham Radio Outlet and the ARC will be developing several radio packages appropriate for the new ham to include various levels of capability, such as an HT, Mag mount, cable; Dual band Mobile radio, power supply, cables, Mag mount; HF set; etc. The point of this action is to help the new ham to get necessary radio and support items at a reasonable price.  
(Rich, Rick, and Jeremy)

Elmer's Corner ARC Shorts – Need support/questions for the new Elmer's Corner for ARC Shorts news letter. Pass to Rick – [N4ASX@ARRL.NET](mailto:N4ASX@ARRL.NET)

50/50 – none, no tickets.

Ways & Means – Ted auctioned off several items drastically needed by the assembled hams.

Meeting adjourned  
Harry/N4CWP

### **FIELD DAY – JACK K5OTZ**

Field Day 2013  
Jack Hranicky K5OTZ

This year's Field Day was a success with 42 people signing in which was a 30% increase over last year. Saturday's weather was fine; however, Mother Nature was not kind to us on Sunday with rain. This caused us to shut down early. Propagation and the noise level made getting started Saturday slow, but things improved. Several stations worked all night with 40 meters being our best station with over 200 contacts.

We had new hams getting on HF for the first time; many other club members worked our 5A field day status stations. We had ups and downs with antennas, but they served us well, including Jeremy's configuration-they worked as his station was the high scorer this year. The 40-meter

station was operated entirely on solar power charging batteries. Also, this year's field day's station/antenna arrangement caused very little interference among radios.

The band captains were KJ4FUU (TOM) who worked 10 meters, KA4FGY (Rich) and N4ASX (Rick) worked 75 meters, KV3W (Jay) worked 15 meters, N4CWP (Harry) worked 20 meters, KF7IJZ (Jeremy) handled 40 meters, and KI4D (Don) handled 6 meters. We got all kinds of bonus points, official visitors (Councilwoman Dell Pepper w/husband), press releases, down loaded an ARRL bulletin, message to ARRL section headquarters, kids operating radios, PR desk, and we (Rick) are working on our total score. And, we even have a video by Jeremy which will be up on our website.

We had 42 people for Saturday's evening meal...great barbeque. Ted (W9TCE) kept us supplied with refreshing lemonade. Field Day is one of our biggest activities which was demonstrated by the high turnout by the club.

### **ADA Tour De Cure Support**

Don KI4D and Rick N4ASX supported Eric KG4DZA with the annual Tour de Cure bike ride. The ride raises funds for the American Diabetes Association (ADA). Don and Rick were assigned to the spot in Vienna where the Caboose is located. No emergency traffic was passed and a good time was had. Erik told us that each year he wonders if amateur radio is really needed but if you listened to the 100 mile course folks, they worked their tails off.

Rick  
N4ASX

### **President's Corner**

#### **FIELD DAY AFTER ACTION REPORT – Tom / KJ4FUU and Jeremy KF7IJZ**

- 1.) Let's get the bad news out of the way first. There was a misunderstanding that occurred involving one of our newer members and one of our older members regarding station operation. As a result of the dispute, the newer member went home and resigned from the club. He may have gotten the impression that established members of the club had more privileges than newer members. As he is no longer on speaking terms with the club, further outreach doesn't seem possible at this time. We only wish that he had come to a club officer about this, because we could have gotten the problem resolved. In the future, if you have a problem of how Field Day, or any other club operation is being done, please contact a club officer for help, so that this sort of thing doesn't happen again.
- 2.) Of lesser impact, the 10M station received interference from both 15M and 20M voice stations, more than CW would have caused, due to the close proximity of the antennae. The 15M station caused broadband interference when the operator keyed up, and the 20M station caused interference around the 1st harmonic (with two side spurs) when that operator keyed up. The 20M interference only wiped out our ability on a few frequencies, while the 15M station removed our ability to pull out weak signals. One possible solution is for the club to purchase a

set of bandpass filters, which a club officer can store between operations. The cost would be \$645 + Shipping for all HF FD bands.

3.) Also, we need to be better aware of what's going on around us. It would have been nice to have a video of those teenagers who trashed the bathroom to show to police or a city official. We won't be blamed, I think the city knows us better than that, but it would have been nice to have a video of the water fight they had outside of the bathroom.

4.) Now, what was good about Field Day: lots of new hams came out and had a chance to see and try HF operations. Ed demonstrated a cheap, simple to construct, and effective 2M antenna, which an antenna analyzer showed to be 1.1:1 SWR across the 2M band.

5.) The 40M vertical worked a lot better than I expected, with contacts made to the west coast and even Hawaii! And, we got to see a variety of HF radios, including the TenTec Eagle, Icom 756ProII, and the Elecraft K3+PAN adapter. The latter radio was brought by a guest from the Anne Arundel Radio Club, Raven KB3MUV. The 10M station was an Elecraft K3, 15M was an Icom IC-7000, 20M was an Icom IC-756ProII, 40M was a Yaesu FT-450D running through a W3NQN Bandpass Filter and then connecting to either a Little Tarheel II based vertical with 40 1/8 wave radials OR a 100 watt Par End Fedz 20/40 antenna. 40M also was powered by a Solar Panel (a 120watt PowerFilm Solar array) fed in to a custom "solar generator". 75M was a TenTec Jupiter/Eagle, and 6M was a Yaesu FT-857D.

6.) I was told that we had better overnight participation than in previous years. The 20M station contacted Hawaii after about 4:00AM Sunday. John KK4RBB made contact with a station in the East Bay section (San Francisco), which I had failed to make after trying for a while.

7.) Ed, W4EDF attempted FM satellite contact on Saturday, which was the one and only opportunity to make contact with a Satellite during FD. He also demonstrated APRS and how to make a very inexpensive and simple 2M ground plane antenna.]

8.) The weather was decent: hot, but breezy. The rain held off until daylight on Sunday. The Barbeque from Red Hot and Blue was a hit with everyone.

We wish to thank all those who helped by bringing in gear, food, and advice. We also wish to thank those who spent time educating new hams, and those who worked on the stations. We extend special thanks to those who stayed overnight. And of course, many thanks to those who helped set up and take down everything.

### **PRESIDENT'S CORNER – Tom KJ4FUU**

Well, we just finished another Field Day. It was fun, but I'm glad it only comes once a year. I stayed all night for the first time, intending to catch a nap sometime overnight, but it didn't happen. I slept a lot Sunday afternoon.

On my first Field Day, back in 2010, I made \*one\* contact. Rick N4ASX saw that I needed some mentoring in the art of operating in a contest, so he let me operate the 7/2010 IARU HF contest from his station, showing me how to do things. I made 40 or so contacts all over the

world that afternoon, and I'm now much better with contests. I hope everyone got a chance to operate as much as they wanted on Field Day, but I feel I was remiss in not asking those around me if they wanted to operate on 10M. 10M wasn't very hot, but I was drooling over all the features offered by the Elecraft K3 that KB3MUV brought in. If you didn't get a chance to operate and still want to, please get in touch with club members with HF stations, such as Rick. Rick has repeatedly offered to help new hams learn to operate on HF. If you don't have an HF station of your own, it still doesn't hurt to practice for next Field Day.

Many hams still only use VHF radios, and that's OK. Ham radio is diverse enough for everyone to find a niche. The club has a lot of activities using VHF/UHF, and there should be enough for everyone to get involved.

If some of the new hams are available around President's Day, we ask them to please volunteer to help in the GW Birthday 10K Run and the GW Birthday Parade on the Monday holiday.

Stay involved!

Thanks, and 73,

-- Tom KJ4FUU

### **Future Programs**

The METRO Radio system – August if Rob is willing

Australian education over radio – Tomas in September

Joel – RF Connections – Connectors without instructions. – When we can get him.

Working on DARPA Spectrum Management, ARRL, AMRAD - SDR radios, AMSAT – Eagle Sat, NERA – Wide area UHF repeater system, Cell Phone/Trunked Radio Systems, Field Day – Planning, RFI chasing, Metro Radio system. And any others you suggest.

### **DAYTON REPORT**

The annual pilgrimage to ham radio mecca, otherwise known as the Dayton Hamvention went well this year. It was a smaller than usual crowd from Alexandria, but the overall attendance was reported to be up from last year.

There didn't appear to be any must have radios introduced this year, but for the Alexandria members, the Alinco DJ-29T was a hot seller. In fact, they were a hot seller in general, as KA4GFY and W9TCE got the last two from Universal Radio and N4CWP got one of the last ones from R&L on Friday afternoon. If you're not familiar with this Alinco, it's the only ham band radio for the 1.25 meter and 33 cm bands. This radio is of special interest to us because a couple of years ago at the Hamvention, KI4MWP put a bug in the ear of the Alinco engineers to market a dual band radio that covers 1.25 meters and 33 cm. It was a concept last year, but was being sold at its first Dayton after it was introduced.

In case you are wondering why those two bands, the Alexandria Radio Club is the proud owner of great sounding repeaters on both those bands.

Speaking of new radios, one of our recent graduates, KK4RBB, went to his first ever hamfest and bought a new ICOM ID-51 HT. That radio was definitely a hot seller, as dealers were sold out by Friday afternoon. At least one dealer had more shipped in early Saturday morning. Other DSTAR radios were selling fast as well as more hams jump on the DSTAR train.

Mark your calendars now for next year's Hamvention. The dates are May 16, 17 and 18.

73, KA4GFY

### **ELMER'S Corner –**

So far, we covered buying used radios, cheap antennas and power supplies. Let's talk about antenna feedlines and connectors. I was getting ready for Field Day and putting the newsletter and I read Harry's meeting minutes. The simplest VHF antenna is the roll up J-pole with the details in the May ARC SHORTS. It dawned on me that most of those who will want to build one of these antennas will want to use it with their handheld VHF radios. In the past these radios had BNC connectors so we used BNC to PL-259 (UHF) adapters, but now handhelds use an SMA connector. SMALL and maybe a bit difficult to put on our antennas. BUT, I wanted to give it a shot, so I called my favorite connector, cable place and ordered a bunch of connectors including some RG-8X SMA male connectors. WOW – in one paragraph I tossed a great deal of jargon at you and your lost in it. DON'T STOP READING – I Shall endeavor to explain.

There are two types of feed lines for antennas, the balanced line or twin lead that we use to use for our TV antennas. Twin lead is very efficient but can be a pain to feed through a wall or work with. Good for HF but not so good for 50 MHz and up. COAX is the cable with a center conductor, an insulator around that center conductor and an outer conductor over the insulator and then an outer plastic or rubber jacket. It comes in several impedances (50, 75, 92 ohms) we are interested in the 50 ohm cable. Now there are THREE sizes that we generally use. The big stuff is 5/8 in diameter can be RG-8, RG-213 (Mil Spec RG-8), Low loss versions are LMR-400 or 9913. There are charts in the ARRL handbook and antenna book to show the loss of each type of coax. This stuff is great for the home, but can be a problem when portable or installation in a car. The next step down is RG-8X. This is the smaller diameter stuff and 8X is almost as good as RG-8. I use RG-8X for mobiles, and portable / Field Day / Public Service operations. 100' of this stuff is a lot easier to deal with than 100' of RG-8. If you're going CHEAP, then there is RG-58. This is slightly thinner than RG-8X and not near a good, but it's the stuff you can buy at Radio Shack for 19 cents a foot or less.

Most mobile radios (CB's as well) have a standard Coax connector on the back. In the industry it's called a UHF connector. The female connector is also known as an SO-239 and mates to the PL-259 on the coax feedline. So, if you buy a VHF mobile you will want to make up a feedline with a PL-259 connector that goes with the coax you chose to use. If your using a new handheld the little connector on the handheld is an SMA connector. Most of us do not put the SMA male connector on the coax, but buy an adapter to convert the SMA to the UHF Female (SO-239) and then connect our coax with the PL-259s to the adapter. Some adapters convert to a BNC connector. The BNC is what was used on UHF and up radios and handhelds before the SMA.

It's a bayonet type connector. An important point here is that adapters cost power on transmit and some receive sensitivity.

Now we have three kinds of coax and three different kinds of common connectors. Now I will toss in one more variable. Two kinds of connectors. The standard for most is the solder on connector. The solder on UHF (PL-259) for RG-8 you cut the outer conductor back exposing a length of the center conductor and insulator and cut the insulator back so you have a little exposed center conductor (about ½ inch) another 1/16 inch of insulator and then about ½ inch of outer conductor exposed. You first put the screw collar over the coax, then you put the connector body over the end of the coax and screw the outer conductor into the connector body while having the inner conductor feed into the center pin of the connector, solder the inner conductor to the pin and there will be holes in the outer side of the connector body that will show you the outer conductor. This becomes a talent issue. You want to place solder into those holes and get a good solder connection WITHOUT melting the insulator between the inner and outer conductor of the coax or the insulator in the connector. I use a 250 watt soldering gun for this.

Another approach is the CRIMP on connector. About the same initial fit up but you also put a collar over the cable with the screw on piece. Solder or crimp the center connector and then the insulator goes inside the connector body and the outer conductor goes outside the connector body, then there is a crushable collar that slides over the outer conductor. Here is the fun part, you get your crimping tool and crush or crimp the collar down onto the outer conductor. Faster and unless your really good with the soldering gun works better. The cost of the Crimp kit is about \$100 but the connectors are about 50 cents cheaper and not redoing the connectors will pay off.

Now if your using RG-8X or RG-58, the solder on connector is the same but you add a sleeve over the smaller coax. There solder on PL-259 can be more like the crimp connector. The outer conductor is folder over the adapter sleeve. And then the coax with the adapter is put into the PL-259. Solder the center pin to the inner connector and then with two pairs of plyers you tighten the adapter into the body. You can then solder through the holes in the connector body, but you don't need to if you can tighten the adapter. Crimp on connectors for RG-8X and RG-58 work like the standard but have a smaller body for the smaller coax, no adapters to buy or look for.

If your working with older radios or military gear you may have to work with the BNC connector. One of our members called these BAD NEWS CONNECTORS. The center pin is soldered to the inner conductor and any excess solder may cause problems

### **Hamfests –**

July 21 – Maryland Hamfest and Computerfest, sponsored by the Baltimore Radio Amateur Television Society. Its located at the Howard County Fairgrounds, located just off I-70 and Rte 32 in West Friendship, MD. Its an easy drive and there are usually some unique items to be had.

August 4 – Berryville Hamfest, sponsored by the Shenandoah Valley Amateur Radio Club. This is a vey nice hamfest under the trees at the Clarke County Fairgrounds. Lots of items to be had. It's a short drive and scenic drive from Alexandria. Not only that, the Raritan's club does a barbeque lunch that is worth the trip. Its smoked right there at the fairgrounds.

## Training -

Rick asked me to do a short review of some of the methods used to study for your amateur radio license. I may be biased, but I think a class is by far the best way to do this, because you get the interaction with experienced hams that can help you with those tricky questions that always seem to come up. My philosophy is I would rather teach the student material so they have an understanding of what they need to know, rather than teaching the questions and the right answers to the questions. If you have ever wondered why our classes are spread over several weeks rather than a weekend or even a few weeks, now you know. As for the book, we use the ARRL's Ham Radio License Manual, while other instructors use Gordon West's book. Both are good books for the classroom.

For the student who doesn't want to commit to one night a week for several weeks, there is the occasional weekend class. To put it mildly, this is like trying to take a drink from a fully charged fire hose. It's a lot of information over two or even one day. I can't imagine anyone learns much other than the questions and some of the right answers. Weekend courses require advance preparation by the student and a lot of preparation by the instructors. We tried it once and came to the conclusion the students didn't get much out of it. In looking at the ARRL's listing of classes, I find fewer and fewer classes being taught over one weekend. I am seeing some taught over a few weekends.

As with everything else these days, the internet is a place many people go to do their studying. ARRL has an on-line Technician class as part of their suite of continuing education courses. This class uses the Ham Radio License Manual, but the student is paired with a mentor, who is there to guide the student through the material and answer questions. There is no set day and time to meet, its all done via email. However, the student does have a set time limit to complete the class. If you have ever done any of the ARRL emergency communications courses, this is the same format, and it does work very well.

I periodically see a prospective ham showing up on some of the radio websites asking where/how they should get started on studying for a ham license. As you can imagine, the answers are as different as can be. Some people point them to the license class lookup section of the ARRL's website and some are pointed to the multitude of on-line "study" websites. For the most part, these appear to be websites where they fire a bunch of questions at you and keep score. Some of the ones you pay real money for will keep track of your score and keep firing questions from your problem areas until you figure out the right answer by process of elimination. You don't learn much, other than the questions and the right answer. You often don't know why it's the right answer. As you can tell, I am not a fan of these websites. They are fine as a supplement, i.e., a way to get some experience at seeing the questions and getting an idea of how you might do on the real test.

There is at least one class that is taught as a podcast. You can download this week's class into your ipod or smartphone and listen in to the instructors go through the material. I don't really know much about them, I don't know anybody who has ever used one. Again, I don't know how the student can ask questions to the instructor.

Not all formats work for every student. If you tried one format and it didn't work, don't give on becoming a ham, try another. Getting a license has never been easier with the different study methods out there.

73, KA4GFY

## **Contests**

July 13 and 14 – IARU HF World Championship. SSB and CW. Exchange is RST and IARU zone.

July 20 and 21 – CQ WW VHF Contest. 50 and 144 MHz only. Exchange is your grid square. Most of us in the Alexandria Radio Club are in FM18.

July 20 and 21 – North American QSO Party, RTTY. The exchange is name and state.

July 27 and 28 – New Jersey QSO Party. Exchange is RST and state.

August 3 and 4 – ARRL UHF QSO Party. 220 MHz and above. Exchange is grid square.

August 3 and 4 – North American QSO Party, CW. Exchange is name and state.

## **ARES**

A few items. It is NOT TO EARLY to sign up for the Marine Corps Marathon (MCM). This is a major event for amateur radio. I've talked before about public service being the payback in good will for our spectrum and for many other benefits we get. Not the least of which is a place for the club to meet. With all the stuff about texting and cell phones, most of these laws carve out an exemption for amateur radio and public service radio. If you get call tags for your car in Virginia you don't pay the vanity fee, but you are expected to have gear installed in the vehicle.

Your assignment will be dependent on your gear for the most part. If you have just a handheld, you will be placed on the course where you have easy access to the primary repeaters. Some positions are in low spots and require mobiles or mobiles with good antenna systems.

If you're on the Virginia side of the course you will need to be on site EARLY in the day and you will be at the start of the course or at the very last part of the course, Your time on the course will be dependent on when the last runner passes your spot.

The second short note is to ask that you know your gear. It's a point of professionalism that you can program your gear at these events, but I cannot tell you how many hams have asked me to help with programming a radio with the frequencies on race day in a parking lot at 4AM.

With the weather we have the old Boy Scout motto of 'BE PREPARED' comes to mind. In summer a long power outage is not too much of a problem, but a few winters ago, some of our members were without power for days. Have a plan!

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.