

ARC-SHORTS

MARCH 2016

Club Repeaters: 147.315 (PL 107.2), 444.6 (PL107.2), 224.82 (PL107.2), 53.13 (PL107.2) 927.6 (-25Mhz, PL107.2), and 1282.600 (PL 107.2), DSTAR 145.38Mhz, 442.060, and 1284.600 ALL AR UP AND RUNNING – HAM IT UP! Get on the air!

NEXT CLUB MEETING

Our next meeting is MARCH 18. This month's program is an update of Maryland's MESHnet system. MESHNet adapts old CISSCO WiFi routers to work as an ad hoc IP network using frequencies that we share with the other services, but are open to the amateur operators. The advantage is that any router connected to an internet provider can pass files, pictures and about anything you could send by an internet interface. So, The only radio you need is the one in your laptop or IP phone or other WIFI enabled

President's Corner

I just got back from a cabin at Lake Anna State Park over the past weekend. I was operating in the ARRL DX contest, SSB (voice) version. I managed 340 contacts in under 18 hours (out of a possible 48) of operation with just the search and pounce method from my multi band antenna and 100 watts out of my IC-7100. Of course, DXing is only one part of the hobby that is amateur radio. We also have the Virginia QSO Party coming up the weekend of the 19th and 20th. You can participate even if all you have is a 2 meter handheld unit. However, it is much more fun and fruitful if you have a mobile or base setup and can operate in one of the harder to find locations (like Falls Church City and Fairfax City).

If you have any ideas or suggestions for club activities, just let either myself or one of the club officers know. You can reach me at ki4bxu@mac.com.

73 DE KI4BXU (Erik Misavage)

FEBRUARY MEETING MINUTES.

Our February meetings program was a SKYPE presentation on J-Pole antenna design by Dr. Ed Fong. This was put together by Don, KI4D and was a great program. Dr. Fong has designed variations of the J-pole antenna so they truly work with gain on more than one band. He has college students working to make these antennas for sale at very reasonable prices and our club did put in a group order. Ed was kind enough to donate one of his dual band role up J-poles to

the club which we auctioned off. The Skype connection worked so well that we may do this again.

Many of our members got in on the group buy and this should help some of our new operators who need a better antenna than a rubber ducky to get into the repeater.

Another item of business was the discussion of putting a small HF radio into the trailer which was voted on and passed. We have a line on an ICOM 706Mk IIG from one of our club members. Expect to purchase the radio and install it when the weather gets better. We are also working on a 900Mhz radio for the trailer. The 900Mhz antenna has been donated and will be installed.

The hamfest at the Northern Va. Community College is coming up and Harry has arranged for some tables for the club. If you have items you want to sell, this is a good time.

ARES

In order to make sure our volunteer database is current, I asked all at the last meeting to fill out the ARES volunteer form. We now have 15 volunteers with a few others pending paperwork. I have a prototype ID card using the pictures taken for the club directory. I hope to get all those who volunteered photographed and pictures added to the ID cards.

Field Day is an ARES activity as well as a club activity. Ian, N8IK and Rich, KA4GFY are running Field Day this year and Ian has already reserved the Hensley Park (same as the last two year) for the event on June 25 -26th. The event goes for 24 hours of operation as well as about 3 hours of set up and a few hours to close down. Last year about 30 members showed up at the beginning, but many left after lunch. Please plan to come back during the 24 hours of operation and operate.

Ian and Rich will be setting up the rules.

Introduction to HF radio

Many of our members are new to the hobby and have taken our Technician Class. The first step is usually a 2 Meter or dual band (2 meter and 70 Centimeter) radio. Standard operation is via repeaters on preset frequencies. If you go the D-Star route you can talk via the various reflectors all over the world, same with ECHOLINK, but these modes are internet enabled and not really long distance contacts.

The NEXT step is to move up to the GENERAL class license and try HIGH FREQUENCY or HF (3 MHz to 30 MHz). The modes are now Single Sideband and CW (Morse Code). There is some FM on the high end of 10 meters, but not much goes on there.

First new HF radios are just incredible, more computer than traditional radio, with Digital Signal Processing (DSP). But the price on these new radios can go from \$1000 to higher. Don't

despair! There are many great HF radios for sale used that can be had for \$300 to \$500 range that are GREAT radios. Most of these radios are synthesized with digital readouts, filters, computer interfaces and run on 12 Volts DC.

The limiting factor is not generally the radio, but the need for a decent antenna. On VHF a quarter wavelength antenna is 19" for 2 meters. On 20 meters (the most consistent band for DX) the quarter wave length is about 16 feet! So a simple dipole is 32 feet end to end. The 75 meter band quarter wavelength is 64 feet for a 128 foot long (end to end) dipole. There are various stealth antenna designs. One is to use a LONG WIRE. Buy a roll of thin magnet wire or hookup wire and string as much as you can between the feed point (near your radio) and to the furthest tree or support. Make sure the wire is NOT connected to ground. You will need an antenna tuner to match the random wire to the radio. Many folks have done real well with mobile HF antennas like "Ham sticks" they are inexpensive and can be made into a physically short dipole.

If I've not scared you off with the antennas and the cost of an HF radio, the next question is: "What can I do with HF?" First you can experience contacts with other hams all over the world. Most contacts are very short, exchanges of names, and signal reports. Many amateurs follow up with a QSL card exchange with these stations. There are awards for working 100 DX (non continental US contacts). There are various traffic nets and nets for those with common interests. If your into Collins, Drake, Swan, Ten-Tec, or other make of radio, there are nets to exchange information on those radios. There is a NAVY net on 40 meters for those who were in the Navy. There are mobile traffic nets to keep in touch with those running HF in their vehicles. There are DX and Work All States nets. Lots of people and lots of topics.

Unlike VHF/UHF where conditions don't change, HF is very dependent on time of day and sun spots. One day there is nothing on a given band and the next you can work Japan on 10 watts!

If you're going to jump into HF, the first recommendation is to do your homework. Plan ahead! What do you need. START with your antenna as this is the most important part of your station. Then start shopping for a radio. I STRONGLY recommend you find someone in the club to come with you if you go shopping at the next hamfest.

Another "try before you buy" is to have one of our more experienced members invite you over to use their station. In this way you can experience HF before you invest.

73 Rick

N4ASX

Hamfests –

The Vienna Wireless Society's Winterfest comes up March 20 at the Annandale campus of Northern Virginia Community College. We have table space reserved so club members can sell items that need a new home. Bring those unused items that are taking up space in the shack.

The Culpeper Amateur Radio Association's Swapfest will be held April 9 at Agricultural Enterprise, which is on Route 29 in Culpeper. Features outdoor tailgating and some inside tables.

Its not too early to start thinking about the Dayton Hamvention. Its always the third full weekend in May, so that means May 20 through 22. Thursday is the travel day, so we have a full day at the Hamvention before the really big crowd arrives on Saturday.

I have 4 rooms at the Fairfield Inn Fairborn and 1 is already spoken for. There are several other hotels in the immediate area, but they are sold out and your only alternative is to stay in the hinterlands. Other club members may have a room or two available nearby. Gas may remain cheap for the foreseeable future, so plan on making the trip. The breakdown is usually \$60 to \$80 for gas, plan on \$350 for hotel, \$28 for the Hamvention ticket and bus fare, along with your meals and purchases.

I will need to know by the April club meeting so I can order tickets.

Training -

As I write this, we have 15 students signed up through our website and a few more that have indicated they are enrolling. It's not too late to sign up if you missed the start. If you know of somebody who has wanted to get into ham radio, now is their chance. Signing up for the class is easy through our website. The \$50 tuition covers the book, test fee and class materials.

Contests -

March 12 and 13 – Idaho QSO Party. Exchange is RST and state.

March 12 and 13 – Oklahoma QSO Party. Exchange is signal report and state.

March 13 and 14 – Wisconsin QSO Party. Exchange is your state.

March 19 and 20 – Virginia QSO Party. Exchange is serial number and county (or city).

March 19 and 20 – Louisiana QSO Party. Exchange is RST and state.

March 26 and 27 – CQ Worldwide WPA Contest, SSB. Exchange is RST and serial number.

April 2 and 3 – Mississippi QSO Party. Exchange is RST and state.

April 2 and 3 – Missouri QSO Party. Exchange is RST and state.

April 9 and 10 – New Mexico QSO Party. Exchange is RST and state.

April 9 and 10 – Georgia QSO Party. Exchange is RST and state.

Club Repeaters -

The Alexandria Radio Club owns more repeaters than other club in the area. We have repeaters on every ham radio band between 6 meters and 23 cm. Here is a great opportunity to try a new band. With the exception of the 23 cm repeater, all our analog repeaters are commercial grade equipment which should run for many years with minimal work.

As the 2 meter band started filling up with repeaters, hams turned to the 70 cm band as an alternative. We share this band with the DoD. There are parts of the US where there are few or no 70 cm repeaters to protect the DoD activities. In addition to repeaters, the 70 cm band is also home to amateur satellite communications, amateur television, controlling and linking repeaters, as well as CW and sideband.

Like many clubs, we do have a 70 cm repeater. Our 70 cm repeater is a General Electric (GE) MASTR II repeater station built for commercial service. The MASTR II line was the GE competitor to the Motorola Micor. Like the Motorola Micor, it's pretty much bulletproof and should last many years.

Propagation on 70 cm is different than 2 meters. Being more line of sight than 2 meters, the range on 70 cm is not quite as good. But, 70 cm will penetrate buildings far better than 2 meters. This is probably why the 450 MHz band was popular with many urban public safety agencies until the mass jump to 800 MHz. Another advantage is the size of the antennas. On a typical 2 meter single band handheld radio, the antenna is a helically wound ¼ wave whip. On a 70 cm handheld, the antenna length happens to be about 6 inches, or the height of the rubber duck on the handheld. This makes it far more efficient, (or as efficient as a rubber duck antenna can be).

Base and mobile antennas are smaller too. You will get a higher gain antenna in the same footprint as a two meter antenna. At UHF frequencies, higher gain is a big deal. A ¼ wave mobile antenna at UHF is 6 inches, which will fit in many parking garages.

Below our 70 cm band, the Federal government occupies a lot of the spectrum and above is mix of business, public safety, industrial, transportation, broadcast, you name it. We once had a broadcast remote transmitter just above 450 MHz that was continually transmitting a signal (with the right PL tone) that locked up the repeater. We found it and alerted the owners. They were very apologetic.

Our repeater has very good coverage around Alexandria and fairly good coverage outside the immediate area. Overall, the 70 cm band is a great local coverage band.

As always, ham it up and get on the air.

73,

Rich, KA4GFY

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Future Programs

March – Update on MESHNet

April – Gary Sessums – Katrina Response

May – Field Day planning part I and D-Star for beginners

June - D-Star Ops and programming

July – VHF Contesting (tent.)

August – DX Contesting (tent.)

September - HF Portable Operations (tent.)

October – ARES ops and City interface

November - Club Elections

December – Club Party

Let me know what you want to hear about. HELP !!!! If you have an idea for a program, please let Rick know and he will try to find someone to provide the program.

Social Events

Monday Night Burgers – There is a group that gets together at 6:15 PM on Mondays at a local burger joint. Mark up on the 147.315 repeater and join them for the fun. At this time the group meets at SMASH BURGER At Van Dorn and Pickett St.