ARRL Standard


Pray for our Troops

God Bless America!

# QUA/HAM news

May 2019

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ALL MEMBERS NEED TO UPDATE CONTACT INFORMATION WITH JOHN BARNES



2019 ARRL National Convention at Hamvention®
May 17-19, 2019
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**"Ham News" was first published by Bobby Foster, WA4ZSQ, in August, 1972; the parent newsletter, "QUA," was first published in March, 1947**

## QUICKY NOTES

Accessing the Club's web page: <http://www. BluegrassARS. org>.

Telephone Number for the Shack (basement of the Red Cross Building): (859) 231-0974.

Subscribe to ListServ: Send an eMail to: bars- request@lsv.uky.edu; in Subject line type Subscribe plus <your call sign>

Post notes to the Club List Serv:<bars@lsv.uky.edu>.

The May program will be a discussion on Antennas Theory and Design will be led by Bill Fuqua/ WA4LAV,

Reports of the RECORD OF THE BY LAWS COMMITTEE MEETINGS will not be published in the newsletter due to length. Contact Secretary Bruce Campbell to obtain a copy of the reports.

Leadership and learning are indispensable to each other.
John F. Kennedy

**CENTRAL KENTUCKY HAMFEST**
**Saturday August 10, 2019**

QUA/HAMnews | Welcome to a new member Danny Bailey/KG4KYH. | May 2019

### Meeting Notice

Bart Breeding/KB4FEE,
Chair, Newsletter Committee
Bluegrass ARS, Lexington,Kentucky

The general meeting of the Bluegrass Amateur Radio Society, Inc., will be held Monday, May 6, 2019, at 7:30 PM, in Meeting Room B, second floor of the Red Cross Building, 1450 Newtown Pike, Lexington.

The program will be about Antennas and will be led by Bill Fuqua/WA4LAV. Do you have a topic you would like a program on or a program you would like to present? Do you have a home brewed project you have built? Bring it and show it off! Question? Ask it! Maybe your question isn't one about a Club activity or function, maybe you are having a problem getting some newly acquired equipment set up and operating correctly, or you have an antenna with radiation problems. Regardless of your question, problem, or suggestion, bring it to the Club meeting.

The Club shack is open most Saturday mornings for anyone to operate the Club's stations, or to bring pieces of equipment out to be tuned or checked, or to learn about Amateur Radio, or to just sit around and talk just drop in, no appointment necessary. Bluegrass Amateur Radio Society's ham shack is located in the basement of the Red Cross building at 1450 Newtown Pike Lexington, KY 40511. Entrance is down the steps (look for the BARS banner hung on the railing) at the North Side of the building.

https://hamradioschool.com/antennas-how-many-do-i-need/

### Antennas... How Many Do I Need?

Recently a student in our Technician License Class realized that it may take quite a few antennas to cover all of the available ham bands. He asked, "So how many antennas do I need?"

Of course, my answer was "you can never have too many antennas."

This is a very valid question. Radio amateurs have so many bands available to them, it does present a challenge to figure out the antenna situation. Someone recently said to me, "getting the radio is the easy part — figuring out the antennas is the real challenge." So true.

A new Technician often decides to just focus on VHF/UHF with an emphasis on FM simplex and repeater operation. The focus of this article is broader than that, with the addition of HF operation. Keep in mind that a Technician Class license gives you access to all of the VHF/UHF bands and a relatively

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**Field Day June 22-23, 2019**

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small slice of the HF bands (10 meter phone and 80m, 40m, 15m and 10m CW). The General Class license provides greatly expanded privileges on HF. Imagine that you just bought one of those "do everything rigs" that cover all of the HF bands, 6m, 2m and 70 cm (e.g., Yaesu FT-857, FT-991, Kenwood TS-2000, or Icom IC-7100). That's a lot of spectrum to cover and no single antenna will do it all efficiently.

A basic antenna setup for such a station is to use a dualband VHF/UHF antenna to cover 2m and 70cm, along with a multi-band HF antenna. This won't actually result in an antenna system that covers all of the ham bands, but it can be a good start.

The dualband VHF/UHF antenna could be a Diamond X-50A, a Comet GP-3, or similar antenna. Another popular design is the Arrow Open Stub J-Pole antenna. These antennas are vertically polarized, covering basic 2m and 70 cm simplex and repeater operating. They won't do a good job with weak signal SSB or CW operating, where horizontal polarization is preferred. Some folks may argue for just putting up a single-band antenna for 2m only, which is the most popular VHF band.

For operating on the HF bands, you'll want an efficient antenna that covers multiple bands. You could put up single-band antennas for every band, but that gets complicated and typically results lots of antennas and lots of cable runs back to the ham shack. Focusing on the new ham, it makes sense to go for a multiband antenna and keep the number of individual coaxial cable runs to just a couple.

The first question that pops up is "which bands?" Well, that depends. My biases are towards the higher bands (20m and up) because I like to work other countries around the world during daylight hours. If you are more interested in North American contacts, especially in the evening hours, you might want to cover the 40m and 80m bands. For a new ham, this may be difficult to figure out, until you get some experience and discover your preferred ham bands. So, a good compromise for the new HF operator is a multiband antenna that allows operations on a on a couple of higher bands (perhaps 20-meters, 15-meters, and/or 10-meters), and operation on at least one lower band (perhaps 40-meters and/or 80-meters). Some reasonably inexpensive commercial options with such band allowances are readily available as horizontal wire fan dipoles or trap dipoles. Let's consider these options:

**Fan Dipole** (also known as a parallel dipole) – This is a half-wave dipole with additional elements added to cover additional bands. While there is some interaction between the different dipole elements, they are normally fed by a common coaxial cable, avoiding the need for multiple cable runs.

**Trap Dipole** – This antenna uses tuned circuits ("traps") to enable a single dipole to operate on multiple bands. The dipole length is determined by the lowest frequency band and the traps are used to electrically shorten the

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dipole for higher bands. Trap antennas can usually be designed to work well with two or three different HF bands, and designs combining fan and trap dipole features can provide more, with some trade-offs in efficiency and performance.

**End Fed Half Wave** (multiband) – This half-wave antenna is similar to a dipole but the coaxial cable is connected to one end of the half wave wire, allowed easier mounting than the typical center-fed dipole. A well designed matching transformer at the end feed point facilitates this antenna configuration. Multiband versions of this antenna exist and are a convenient way to enable several bands at once. The popular LNR Precision, Inc. Par EndFedZ® product line offers several multiband options.

**Multiband vertical** – Quite a few different vertical antenna designs support multiple bands. For example, see the Cushcraft R8, Cushcraft R-6000, GAP Challenger DX, Butternut HF9V and the Hustler 4BTV. When considering a vertical antenna, pay attention to whether the design requires ground radials to be installed. Nothing wrong with them, but radials can be critical to achieving efficient-antenna performance. If you have restrictive covenants, you might consider a vertical antenna that is also a flag pole (really!). Take a look at the story and video about a flagpole antenna installation in the related links at the end of this article.

**Antenna Tuners** – When trying to cover lots of bands with just a few antennas, an antenna tuner will be really handy. This may be built into your radio or it may be a separate box inserted into the feedline between the transmitter and antenna.

An antenna tuner does not actually "tune your antenna" but it will tweak up the SWR of the antenna and allow it to be used across a broader range of frequencies. It also will keep your transmitter happily perceiving a nice 50-ohm feedline impedance that circumvents automatic power reductions that come with high SWR from an impedance mismatch.

**Other Bands and Modes**

I've focused on the most popular ham bands, but there are many other frequencies to consider. The 6-meter band is a lot of fun and is accessible to Technicians. Most of the time, this band is good for local communication but it often opens up for over-the-horizon skip by sporadic-e propagation, especially during the summer months. Some of the multiband HF antennas mentioned above also cover 6 meters, or you can put up a separate 6m dipole to get started. The more serious 6m operators use a Yagi antenna to produce gain and a big signal. In most station configurations, a separate 6-meter antenna will dictate another dedicated coaxial cable run.

Another fun mode is 2m single sideband (SSB), the workhorse band for weak-signal VHF. You'll need a horizontally-polarized 2-meter antenna, preferably with some gain. The most common antenna used is a Yagi with many elements, such as the M2 2M9SSB antenna or the portable Arrow models.

**So, How Many?** – You can make a lot of contacts and construct a superb HF to UHF station with just two quite simple antennas. The VHF/UHF vertical dual-band antenna paired with a multiband horizontal wire

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(continued from page 3, How Many do I Need?)

dipole is a cost-efficient, easy-to-erect combination providing FM simplex and repeater ops for local communications as well as long-distance HF skip on several bands. It's a very good way to start.
Putting together an antenna system can seem like an overwhelming task for the beginner, so don't get too freaked out about it. The main thing is to get something usable up in the air and make some contacts. Over time, you will probably add or change your antennas to get just what you want. That is part of the fun of amateur radio.
73, Bob K0NR
This entry was posted in c. How To on March 19, 2016 by Bob Witte.

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https://www.wikihow.com/Build-Seveal-Easy-Antennas-for-Amateur-Radio

**How to Build Several Easy Antennas for Amateur Radio**

Amateur Radio has been a supreme way of communications for many ways of getting messages from one place to another for decades! Many antennas have been invented simply by necessity. Spark Gap Transmitters were used around the time of the great disaster of the Titanic. Wireless is what they called it back then, and still to this day, wire antennas are sending signals out on the airways. Amateur radio has progressed, and continually changed since the spark gap transmitters of that time. High voltage coils were used for their power, and it systematically sent out the familiar "dits" and "dahs" of Morse Code, and the party or parties, at the other end who could read Morse Code wrote the symbols down, and they made words. A fantastic, and fascinating way of communication, and yet, it was primitive enough to look back on from this date, and say that was one fantastic communications tool.
1
Emphasis on the Antenna! The heart of the system of Amateur Radio is the antenna. There are many

**The June's program will be about Field Day and will be presented by David Richardson/W9KHZ**

other misinformed persons stating that power is the ultimate force. Not So ! The heart of any radio station, be it Amateur Radio, Commercial, Business, CB, Personal Family Radio, or experimenters in extremely low power amateur radio ( QRP as it is called ) transmissions IS the antenna! Without good reception, you won't hear much. Without good antennas for transmitting, you won't transmit far, even if you apply high output RF power, or if high output watts are used !
Planning an antenna project can lead to many different thoughts and you should always consider the following. Height, length, feedline, balun, (and we will talk about a balun later), insulators, type wire used, or type metal used, what do you want to do with this antenna, how many bands do you want it to perform its work, if you can use the right materials, space to hang one, and the biggest of all downfalls, if you live in a place that has zoning laws, you may have to get permission (gag) to put up an antenna on your own property !
Planning an antenna project can lead to many different thoughts and you should always consider the following. Height, length, feedline, balun, (and we will talk about a balun later), insulators, type wire used, or type metal used, what do you want to do with this antenna, how many bands do you want it to perform its work, if you can use the right materials, space to hang one, and the biggest of all downfalls, if you live in a place that has zoning laws, you may have to get permission (gag) to put up an antenna on your own property !
What Works with What Current. Regular DC or AC current and voltages travel through the center of the wire, whereas RF runs on the outer portions of the wire. Picture if you will, a wire with the cut portion of the wire pointing at you. If we could see the wire with the current on it, it would be easy to define. AC and DC currents would be from the center out. RF though, would be along the outer portions of the wire, like the skin of the wire. The type of metal used would have a conductivity scale. Of course, none of us will be using

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(continued from page 4, "How to Build Several Easy Antennas for Amateur Radio")

any precious metals in making an antenna, but the rare metals, gold, silver, and platinum are the three most conductive metals of all, but since they cost so much, we have to settle for copper wire, steel with either a brass, or copper coating, or perhaps tin, with or without copper coating, or plain electric fence type tin wire, or possibly aluminum wire if you have no other wire to use. Any good conductor of electricity will conduct RF. The least favored is the mechanic wire, which has a high resistance, and corrodes and rusts easily, causing unwanted resistance, and antenna failure. When subjected to the weather, mechanic wire will rust easily, creating a never ending problem of either breakage, or a problem of MAJOR non-connectivity. It does NOT radiate RF energy well, and doesn't receive signals from other amateur stations transmitting to you. One of the best, and probably the cheapest is the electric fence wire that is coated with brass, or copper. Since we are dealing with "skin effect" properties, just the outer coating will bear the RF energy. Steel wire also should be avoided if possible. Steel will rust easily, even if it is coated in brass or copper. Tin wire that is used for electric fence wire that is not coated, also can be used, but make sure that you inspect the connections from time to time to remove any corrosion, and re-solder them if necessary. Insulated house wire that is solid copper can make one fantastic wire antenna. At least seventy (70) percent of all amateur radio antennas are made of some sort of insulated, or non - insulated wire. Those are the ones we will be talking about here in this article.

Start by choosing your place, and space for your antenna. You should NEVER be close to a power line that is energized. Many people have been seriously injured or have been fatally electrocuted due to their contact with high power transmission lines. It takes just one touch from these high power lines to kill someone who is trying to put up an antenna. Look for low hanging power lines, and stay away from them at least by one and a half lengths of the height of your longest pole closest to the power wires. The closer you are to your radio room, the better off you will be. Back yard antennas, right close to your radio room, or radio shack, make it easy to set up and operate.

Try to avoid placing any portion of your antenna close to the place where electricity enters your home. Use good straight wire, and avoid serious bends or twists in the wire. If you are using tin with copper or brass coatings, watch out for the tendency to coil back onto the wire. Some tightly wound wire may also coil back on itself, regardless of what it is made from, or coatings. Some wires also have a tendency of having sharp ends when cut. Steel is the worst. Good sharp side cutter pliers, or diagonal cutters can also leave a ridge that is sharp if using certain metals. The smaller the wire, the harder it is to work with also. Using wire of light gauge, either 17, 18, right through 22 or 24 gauge, has many problems, not the least of which is its durability. Wind can destroy an antenna in a few moves with small gauge wires 17 through 22. I recommend using not less than 18 gauge for most antennas. There are places, that we mentioned earlier, that won't allow antennas, towers or antenna poles to be constructed. A dipole in the attic of your home is a good idea if you have enough space in your attic to place one. Folded dipole antennas will work great if you do not have a metal roof.

Select the wire you want to use. Make sure it is a wire that can withstand the weather, both summer and winter, and that it is of a workable nature. In other words, don't use a wire that can cause problems down the road when it is actually put into use. Insulated copper house wire is excellent. Please! do NOT remove the insulation! As a matter of a fact, the life of the antenna can greatly be extended if you do leave the insulation on the wire. Also, it insulates it from a short against a green tree, or tree leaf, or even a weed, or branch that may fall. Make sure that if it is bare wire, that you keep it up from the ground, (and we will get into that also later ) so no unsuspecting person comes in contact with the line, in the event it is energized with RF currents. RF burns can hurt, and burn deeply into the flesh of a finger or hand. RF is a sort of invisible energy, and it is the forced movements of electrons along a given path that is an AC style current.

Many tuned circuits of today's time can actually go down to several layers of skin with just one touch. It burns, and sometimes actually fries your skin into a white powder. This is called "RF BITE" since it feels like you got bit by by some sort of bad bug,

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or stung by a bee that has no poison, but can seriously hurt. Amplified RF also hurts worse, due to the added power applied to the antenna. If you are using a tube type amplifier, depending on the wattage it has been tuned to, can and will give you one powerful bite,!, and it will hurt badly.

Make your antenna by the tried and true formulas. Dipole antennas often are the easiest to build, and then turned into inverted V antennas by raising the center of the antennas up into the inverted V style. It's a good idea to have your antenna at least one half ( 1/2 ) wavelength of the antenna. one quarter (1/4) wave is the minimum height above ground for effective performance. Wire "J" poles for VHF are easily built, and can be used in an emergency. These inventions simply use the ever popular 300 Ohm antenna lead in wire. You can use them for any frequency, including the HF bands, but you will need a tall tower, or a high tree to hang them high in the sky. As of this writing, 300 Ohm antenna wire is pretty scarce. A roll of 300 or 450 Ohm antenna wire was $55.00 just a year ago. Now if you can find it from any source, the same roll costs $95.00.

Here’s several other feed lines you may consider to use. Choose which ever line fits your particular need. RG8 mini 8 can handle up to 2 kilowatts. RG8U, which is the large wire, with either foam or plastic center insulator and can be used up to 3 kilowatts, Hard line such 9913 series is the best for VHF or UHF transmissions. 300 Ohm covered ladder line is great if you have a long run, say more than 150 feet (45.7 m). Open feed line is trouble, but you can use it, IF IT DOESN’T act like like an antenna. If you cut open ladder line in less than a wave, it can act as your antenna instead of your radiator antenna element. Avoid using odd lengths of transmission line, and try to do the wave lengths version to prevent parasitic transmissions, and falling on your neighbors antenna, or bleeding off into someones cell phone, or perhaps even setting off home alarm systems that are close in your neighborhood. Car alarms that are not shielded can oft times be set off by using certain frequencies. Please take note here, if you are running amateur radio, and it’s been checked out, it’s NOT your fault that your neighbors are having problems.

## Where's the Rare DX?

OPDX Bulletin 1410 http://www.papays.com/opdx1410.html April 15, 2019

AS-024. Operators Tak/JR1LZK and Mitsu/JE-1HXZ will be active as JR1LZK/6 and JE1HXZ/6, respectively, from Iriomote Island between April 26th and May 6th. Activity will be on 80-6 meters using CW, SSB, RTTY and FT8. QSL via their home callsigns, direct, by the Bureau and LoTW.

AS-079. Take, JS6RRR/JI3DST, will be active from Miyako Island between April 24th and May 7th. He will use the following callsign JI3DST/6 for DX, and JS6RRR/6 & JL3YWN/6 for JA stations. Activity will be on 80/40/30/20/17/15/12/10/6 meters using CW, SSB, FM, RTTY and FT8. Operations may vary in case of heavy rains or other conditions. QSL routes are as follows: JI3DST/6 via JI3DST; JS6RRR/6 via JS6RRR and JL3YWN/6: ONLY 1 WAY (Please don’t send QSL to him). Please check QRZ.com for details. Look for logs to be posted on ClubLog.

OC-235. Operators Audie/DU1ZDR and Gazelle/DU1ZDQ will be active as DZ1A from Patrick’s on the Beach, Siargao Island, between May 4-5th. Activity will be on specifically IOTA frequencies 14260 and 7055 kHz using CW and SSB

T43, CUBA. Members of the Special Group of Expeditions and Competitions (GEEC) will be active using the special callsign T43A from the Province of Artemisa, in the western part of the Republic of Cuba, between 0000 UTC, May 16th and 0000 UTC, May 20th. This operation is celebrating their first anniversary. Activity will be on 80-10 meters, including 60 meters, using CW, SSB, RTTY and FT8. QSL via RW6HS.

WP4, PUERTO RICO. Felipe, NP4Z, will be active as WP4X from San Juan during the CQWW WPX CW Contest (May 28-29th) as a Single-Op/High-Power entry. QSL via N4AO.

### Princeton KY Hamfest

06/01/2019
Location: Princeton, KY
Type: ARRL Hamfest
Sponsor: Princeton Ham Radio Club, Tri-County ARES Group
Website: http://w4kbl.org

It's the poor design, shielding and the sensitivity of their equipment that is at fault. Sometimes, a solution can be reached, other times, there is no solution other than they have to put a filter, or a suppressor on their equipment to keep their equipment from malfunctioning, and acting as a receiver. The FCC also states that our equipment must not cause unwanted interference from occurring. In order to defend yourself, make note of the frequency you were using at the time the incident occurred, and if you have not had your equipment tested, have your equipment put on a spectrum analyzer, or a harmonic detector to PROVE your equipment is NOT causing any unwanted interference. If your equipment is clean, then it's up to the other party to take action to prevent them from getting on the ham band.

Screen your VHF and MHF bands. There are frequencies that we use that can cause malfunctions of RC cars, airplanes and robots. Its not the hams fault. It's mainly due to a flaw in design, shielding or it could be that these toys are acting as a receiver. Such was a case not long ago, and we will discuss the outcome of that incident, but first let us talk building antennas.

PEP, is the maximum output power allowed by law peak to peak envelope, cycling from an AC source, RF output. With recent changes to some laws, the local government can also regulate how much power you can use. Legally, Amateur radio operators can run up to 1500 watts! That's a lot, but consider this, a ten thousand dollar set up with a 50 cent antenna, isn't gonna serve you well. Whether you live in the country, or in the city, the antenna is the root of good transmit / receive functions.

Formulate then make! The way to find out what length you need for a DIPOLE antenna, which is the most common antenna used, you use mathematical equation, 468/FMhz whereas, 468 is the one standard, the fMHz is Frequency in MEGAHERTZ, and that give you the total length of a dipole antenna in feet. Divide by 2 and place a ceramic, dog bone, or even PCV pipe insulator between them in the middle where you just cut, and you got a dipole antenna. Attach a feed line, and run to your tuner, or if you are gonna use resonant antennas, attach to your SWR meter, and check for high SWR readings. Usually, less than a 1:5 to one or less is acceptable, but a 1:1 match reading is the very best. Using resonant antennas can be the most fulfilling experience of

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## Program Schedule for 2019

David Richardson/W9KHZ, Chair, Program Committee
Bluegrass ARS, Lexington, Kentucky

The following programs are scheduled for 2019. Your input and suggestions for programs for 2019 are needed. Call David Richardson,W9KHZ at 869-983-1380 or e-mail at daveinlex3@gmail.com/.

| | Month | Topic | Presenter(s) | Comments |
|---|---|---|---|---|
| ✓ | January | "Winter Field Day" January 26-27, 2019 | David Richardson/W9KHZ | |
| ✓ | February | CERT Program | Shelly Bendall LFUCG | |
| ✓ | March | SkyWarn National Weather Service, Louisville, KY | Joe Sullivan | |
| ✓ | April | Portable Go-Kit | David Richardson/W9KHZ | |
| | May | Antenna Theory and Design | Bill Fuqua/WA4LAV | |
| | June | "ARRL Field Day" June 22-23, 2019 | David Richardson/W9KHZ | |
| | July | Lightening Protection | Jim Bacher | |
| | August | "Hamfest" August 10, 2019 | David Richardson/W9KHZ | |
| | September | Annual Family Picnic | Bill DeVore | Shelter#2, Shillito Park, LEX |
| | October | Discussion of By-Laws and SOP changes | | |
| | November | Report of Nominating Committee | Additional discussion on By-Laws and SOP | |
| | December | "Annual Auction"/Election | Andrew Cook | |

## Meeting Schedules for Area Clubs, Exam Sessions, etc.

Volunteer examinations are held in or near Lexington on a schedule that has tests in central Kentucky every month of the year. Schedules for area sessions, plus meetings, etc., are as follows:

The Bluegrass Amateur Radio Society, Inc. (Lexington) - (Fernie Williams/KE4MAI (ARRL - $15.00) and Margie Williams/KE4MAJ(WCARS- $10.00)), with Darrell/AC4YD in Winchester and Richmond (W5YI), John/K4FT in Danville (ARRL), and Ron/WX4GPS in Georgetown (ARRL - $15.00), have a schedule to offer an exam monthly in Lexington/central Kentucky. (See schedules on page 9 of this newsletter). ARRL sponsored tests are held the second Saturday of the month, 10:00 AM in the Red Cross Building, Meeting Room "B", 1450 Newtown Pike, Lexington (except the August session is the Saturday of the second weekend of the month and is held at the site of the Central Kentucky ARRL Hamfest), and WCARS sponsored sessions are held the third Tuesday of the scheduled month, 7:00PM in Meeting Room "A" in the Red Cross Building, 1450 Newtown Pike, Lexington. Contact Margie/KE4MAJ at 859-489-6274 or email to ke4maj@arrl.net. Go to <http://www.lexkywcars.org> for information.

Winchester (W5YI VEC) - They are located in the Clark County EOC, 200 Maryland Avenue, Winchester, Kentucky. Their 2019 schedule (10:00AM): Saturday, January, 12, Saturday, April 13, Saturday, July 13, and Saturday, October 12. Contact Liaison Darrell Epperson/AC4YD, AC4YD@arrl.net, 859-771-1834

Danville (ARRL VEC) - Test sessions are fourth Saturday in January, April, July and October at 10:00 AM. Liaison John Wulf/K4FT, johnk4ft@gmail.com, 563-505-0339, Wilderness Road Amateur Radio Club, American Legion Post 46, 45 Spears Lane, Danville,KY 40422 - Repeater 145.310 (100 pl).

Georgetown (ARRL VEC) - Liaison Ron Malinowski/WX4GPS, wx4gps@arrl.net, 502-542-8252, Georgetown Police Dept, 550 Bourbon St., Georgetown (for dates see schedule on page 4 of this newsletter).

Radio Theory and Construction Workshop - Each Saturday 1:00-3:00 PM in the Bluegrass ARS Education Center, basement of the Red Cross Building, 1450 Newtown Pike, Lexington. Contact Bill Fuqua/WA4LAV at (859) 272-9523 or wa4lav@arrl.net.

Versailles/Woodford County - The Woodford County Amateur Radio Club meets the first Wednesday of each month at 7:00 PM in the Versailles Fire Station No. 2 on Big Sink Pike (38°3'34" N 84°43'11"W). Anyone interested in amateur radio is cordially invited. Also, visit their web site at <http://www.ky4wc.org>. You may contact Todd Rose/KE4YAH (atrose@ windstream.net).

Fayette County ARES Net - Wednesday, 9:00 PM, 146.940
(-600 Tone 88.5) repeater.

Amateur Television and Specialized Communications Net
- An informal meeting is held every Sunday evening at 9:00 PM (local time) on the 146.760 (-600 offset) repeater in Lexington.

Kentucky Six-Shooters Net - Wednesday evenings at 8:00 PM six meters FM on 52.525 MHz (vertically polarized). David Jordan/KI4AWZnet control; and, Daily Six-Meter FM Ragchew net 7:00-9:00 PM on 52.525MHz (vertically polarized). James Peel/KG4VAR net control.

KY-QRP - Temporarily canceled.

Scott County Amateur Radio and Emergency Service Club (SCARES) - Meetings are the third Saturday each month, 9:00 AM in the Solarium room at Georgetown Community Hospital, 1140 Lexington Road, Georgetown. Check in to their weekly simplex net Tuesdays at 7:00 PM on 146.685 (PL 141.3).

Central Kentucky ARS (Richmond-Berea) - Meet the Third Thursday each month in the Madison County EOC, Richmond, Kentucky, at 7:00 PM. Talk-in on 146.865 (-600, PL-192.8 Hz) and 145.370 (-600, PL-192.8 Hz) repeater for location, directions to meeting site, or other information.

Greater Mason County ARA meeting, 7:00 PM, second Tuesday each month, Maysville Community College Science Building.

Pioneer ARC (Winchester) - Fourth Tuesday each month, Golden Corral Restaurant, 7:00 PM (eat at 6:00), except March 26 meet at Christview Christian Church (SkyWarn). Talk-in/info on 145.430 (-600 ,T-203.5).

Jessamine Amateur Wireless Society (Nicholasville) - Meet Second Monday each month, 7:00 PM, St. Joseph/R.J. Corman Ambulatory Care Center, 1250 Keene Road (U.S. 27 Bypass south to intersection with 169; turn at the light.) Talk-in on the 145.490 (T-123.0).

The Jessamine County ARES Net - Tuesdays at 7:30 PM, 145.490 Repeater, Gary Britten W4GNB net control..

The Madison County ARES Net, Monday at: 7:00 PM, 146.865 (pl 192.8). Everyone is invited to check in. . . Wilderness Trail Emergency Net, Wednesdays, 8:30 PM, 146.715 (pl 100.0). . .Glenn/KO4OL.

The Southeast Kentucky ARC - meet at the Laurel County EOC, 168 Substation St, London. Meetings on odd number months (Jan,Mar, etc.) are on the Second Tuesday at 6:00 PM; meetings on even number months (Feb, Apr, etc.) are the Second Saturday at 11:00 AM. Talk-in on 147.180 (PL-74.4) for directions tor other information. District 11 Skywarn Net meets Sundays at 8:00 PM on 146.925 (-PL- 79.7) and is linked to 147.180 (PL-74.4) and other repeaters in and close to the area. District 11 ARES Net meets Mondays at 9:00 PM on 146.925 (PL-79.7) and is linked to 147.180 (PL-74.4) and other repeaters in and close to the area.

Please send any changes or corrections to these notices to my attention, Bart Breeding/KB4FEE, in care of Bluegrass ARS, Inc., PO Box 4411, Lexington, KY 40544-4411, or e-mail to aratat291@twc.com.

07/20/2019
Big Sandy Amateur Radio Club Hamfest
Location: Louisa, KY
Type: ARRL Hamfest
Sponsor: Big Sandy Amateur Radio Club
Website: http://bsarc.org/

# Schedule for Volunteer Examinations in 2019

Harry Spark/KN4S,*
Bluegrass Volunteer Examiners
kn4s@kn4s.com

The exam schedule for 2019 follows nearly the same format as past years. The scheduling is for Lexington/Fayette County and the sessions in Danville, Georgetown, Winchester, and Richmond hamfest. The Bluegrass Amateur Radio Society-sponsored ARRL exams will continue to be held on the second Saturday of the second month of each quarter (except the August Session will be the date of the Central Kentucky ARRL Hamfest in Lexington), and the WCARS sessions remain as they were last year, Tuesday evenings quarterly.

## Test Session Locations

| Lexington* | Winchester** | Danville | Georgetown |
|---|---|---|---|
| Red Cross Building | Clark County EOC | Amer Legion Post 46 | Georgetown Police Dept |
| 1450 Newtown Pike | 200 Maryland Ave | 45 Spears Lane | 550 Bourbon Street |
| Lexington KY 40509 | Winchester KY 40391 | Danville KY 40422 | Georgetown KY 40324 |

* August, Bluegrass ARS Hamfest, Eastland Shopping Center, Lexington, Kentucky
** September, Richmond Hamfest, Madison County Fairgrounds, Richmond, Kentucky

## Contact Information

ARRL VEC: Lexington and BARS ARRL Hamfest test sessions - Liaison Fernie Williams/KE4MAI, ke4mai@arrl.net, 859-652-3393 (www.bluegrassars.org)
Danville - Liaison John Wulf/K4FT, johnk4ft@gmail.com, 563-505-0339, Wilderness Road ARC, http://www.wrarc.com
Georgetown - Liaison Ron Malinowski/WX4GPS, wx4gps@arrl.net, 502-542-8252
WCARS VEC: Lexington - Liaison Marguerite Williams/KE4MAJ, ke4maj@arrl.net, 859-489-6274 (www.bluegrassars.org)
W5YI VEC: Winchester - Liaison Darrell Epperson/AC4YD, AC4YD@arrl.net, 859-771-1834

TEST SESSION FEE: ARRL - $15; WCARS - $10; W5YI - $14

| Date and Time | | VEC | Location |
|---|---|---|---|
| Saturday, May 11, 2019 | 10:00 am | ARRL | Lexington |
| Saturday, June 8, 2019 | 10:00 am | ARRL | Georgetown |
| Tuesday, June 11, 2019 | 7:00 pm | WCARS | Lexington |

**Bluegrass Amateur Radio Society (BARS)**
**Directors' Meeting Minutes of March 18, 2019**

**Red Cross Building, Lexington, Ky.**

The March, 2019, Directors' Meeting was called to order at 7:46pm by President Andrew Cook, KF4OWP.
In attendance were:
2nd Vice President – David Richardson, W9KHZ;
Treasurer – John Barnes, KS4GL;
Secretary – Bruce Campbell, KM4EHU;
Directors-at- Large – Tim Kunkel, KF4MPM, Mark Elliott, KN4HVX.
Plus MARS Representatives Barry Jackson, WB4N, and Harvey Frye, AA4H
Treasurer's Report.
Treasurer John Barnes, KS4GL, reported that one new membership applications was , W9KHZ, moved, and Tim Kunkel, KF4MPM, seconded that the application be accepted and presented at the April general membership meeting, which was approved without objection.
Treasurer John Barnes, KS4GL, submitted the summary treasurer's report of amounts available in bank deposits as of January 31, 2019, are:

| | |
|---|---|
| Checking account: | |
| General fund: | $8,665.64 |
| Coax/repeater: | 804.98 |
| Education: | 1,909.29 |
| | $11,379.91 |
| PayPal account: | 3,341.24 |
| Savings account: | 200.94 |
| Total balance of accounts: | $14,922.09 |

David Richardson, W9KHZ, moved, and Tim Kunkel, KF4MPM, seconded that the treasurer's report be accepted and was approved without objection.
Secretary's Report.
Secretary Bruce Campbell, KM4EHU, reported that MJF Enterprises would consider any requests for quotes from BARS and provide any special pricing that they could to us as a nonprofit organization. DX Engineering does not provide any special pricing considerations.
Committee Reports.
Contest: (Pete Kragh, K2UPD). (no report)
Education: (Bill Fuqua, WA4LAV). (no report)
Emergency Preparedness: Sandy Gragg,KM4PJU has been named as emergency
communications coordinator for Fayette County.
Hamfest: David Richardson, W9KHZ. Nothing to report.
Newsletter: (Bart Breeding, KB4FEE). (no report)
Program: David Richardson, W9KHZ. A future program topic may be on Lightning Protection.
Public Relations and Membership: (Bart Breeding, KB4FEE). (no report)
Repeater: Andrew Cook, KF4OWP. Nothing to report.
Shack: David Richardson, W9KHZ.
1) The off-center-fed dipole is out of operation due to weather damage until it can be replaced.
2) James Schlesser, WA9MED, is modifying the donated repeaters for ham band operation.
HF Liaison: David Richardson, W9KHZ. Nothing to report.
VHF Liaison: Tim Kunkel, KF4MPM. Nothing to report.
Volunteer Examinations: (Fernie Williams, KE4MEI). (no report)
Historian: (Bill DeVore, N4DIT). (no report)
KYQRP(ad hoc) – Roger Colvin, KJ4YSY. (no report).
Library: John Barnes, KS4GL. Nothing to report.
MARS: Harvey Frye, AA4HF, and Barry Jackson, WB4N. The MARS station is operational.
Trustee: Andrew Cook, KF4OWP. Nothing to report.

(continued on page 14)

(continued from page 7, “How to Build Several Easy Antennas for Amateur Radio”)

Stretch out the legs of the antenna as much as possible, and pull them as high in the air as possible. The more capture area that is available, the better the transmit or receive. Secure line with good strong, nylon or rayon rope. Use either 1/4 or 1/2 inch (0.6 or 1.3 cm) plastic nylon or rayon rope, and then you will find that these works best, but you should inspect them at least twice a year for frays, or weathering problems. Replace if necessary.

Making a new design ! For many years now, designing antennas has been a passion for many a ham operator. The next one on the list is a cage dipole. For this, you will need either 4 or 6 inch (10.2 or 15.2 cm), thick wall PVC sewer, or water pipe, and a way to cut it in either 1/4 or 1/2 inch (0.6 or 1.3 cm) spreaders. Use of a compound mitre saw makes this job easy. Use a 12" saw to cut the 6 and 4 inch pipes. WATCH OUT THOUGH, SINCE THE LAST FOOT OF THE PIPE COULD BUCK AGAINST THE SAW and may not cut through the pipe, and throw it back at you. Cut only where it will NOT be dangerous. usually 12 to 14 inches (30.5 to 35.6 cm) of the pipe will be left. If you own, or have a friend who owns one of the saws, use it to cut the pipes. Once they have been cut, measure the outside diameter of the pipe spreaders on the OUTSIDE in metric CM and MM. After you have the circumference, divide by 6 if you are using 6 wires, or divide by 8 if you plan on using 8 wires for this project. After you have the pattern down, use a drill with a 1/8th or a 5/32ths drill bit, depending on the gauge wire used to put 6 or 8 holes in each spreader. Be accurate as possible.

Do not use the SAME FORMULA FOR THE CAGE DIPOLE. It will be shorter than a regular dipole! It is relative to the size spreader used! You can only use the original formula as a starting point. Depending on spreader size you may have to reduce the length by as much as 4% or more!Just remember that you will either use 6 wires or 8 wires. Electric fence wire is often a choice in this type of an antenna, as it is relatively inexpensive, and can be bought in large rolls of one quarter or half mile or more wire on one spool. . Tin wire will work in this project, however copper is best Using anything other than copper can compromise performance

Measure carefully, although not critical at this point. It's always better to go a little too long, than too short, and then have to add wire. Cut full run lengths of 6 or 8 wires. Its always a good idea to have a couple friends working with you when it comes to this project. Make the wires you have cut come together at the center when you have done your measurements.

Assembling your antenna, and this where the fun comes into play. Slide 5 spreaders on the wire, using 4 of them, easing them all the way down to the other end. Next, space the spreaders with the wires through the holes at intervals of either 18 or 20 inches (45.7 or 50.8 cm) apart. Put contact cement on the tooth picks, or match stems before sliding them into the holes with the wires to hold them firm. Leave one spreader at the first end, that way, it will show you where to place your wires into the spreaders. Continue with the spreaders, using 4 or 5 spreaders at a time, leaving one at the end each time. Tighten wire, and then peg the wires with the sharp toothpicks, or wood matches, using ONLY the wood on the matches. After you reach the end of one side of the cage, gather up all the loose wires at both ends, and tie them together using a piece of wire, wrapping all wire ends together near the center of the spreader. Lay this leg of the dipole aside, and do the same with the other leg.

Make it “Count”. Whether you use 18 inch (45.7 cm) or 20 inch (50.8 cm) spacings in between the spreaders, to make it look good, don’t change the spreaders in alternately positions. If you use 18 inch (45.7 cm) spacings, use them all the way to the end of the antenna. If you use 20 inch (50.8 cm) spacings, use all spacings at 20 inches (50.8 cm) apart. Larger wires in gauges of 14 or 12 can add weight to this project, so it takes a lot to get these antennas going. Don’t rush this project! Take your time, do it right the first time, and then, you can rest assured that your antenna will serve your purpose. The capture area of a 6 wire cage dipole has increased 5 times ! Don’t rush this project! Take your time, do it right the first time, and then, you can rest assured that your antenna will serve your purpose. The capture area of a 6 wire cage dipole has increased 5 times !

(continued on page 11)

(continued from page 10, "How to")

An EIGHT wire antenna increases gain of capture by 7 ! Although it is hard to work with, and build this antenna, for amateur radio use, it's one of the best.

ZOOM-XOOM-and Voila ! One of the best kept secrets of Amateur radio antennas are either the box, or delta loop antennas. Resonant antennas cut to the exact frequency, in the middle portion of the band, and used with a tuner of sufficient size, can tune several bands. The formula used to find a full wave loop antenna is 1005 / FMhz. This gives you the length of a full wave loop antenna for the band you are using. Horizontal positioning into a TRIANGLE shape, makes it a DELTA loop, If you put it into a square, or rectangle shape, you have a BOX loop antenna. Out in the country is where this antenna is most often used. It requires a large area of land, and also it can be fed either in the middle, or an end portion of the loop. When hoisting this little monster of an antenna into the air, watch out, as we said before, for POWER LINES~! Trees that are spaced far enough apart provide ample heights above ground for this antenna. Trees are often called, "Poor Mans Towers" and either can be accessed for use by using several methods, including a good fishing pole and a 4 ounce sinker, properly aimed at a high branch in the tree. When it is successful, tie a masons line, or even affix the rope you are going to use to the line, and gently roll in your catch over the branches of the tree, and pull it down to the ground. Don't forget to use adequate lengths of rope, or safety cord for this project. You can use PVC pipe here as an insulator. Cut 3 or 4 pieces of 1 1/2 inch (3.8 cm) PVC pipe about 6 or 7 inches (15.2 or 17.8 cm) long. Drill 1/2 inch (1.3 cm) holes using a good drill bit, and never drill close to the end of the pipe. About 2 inches (5.1 cm) from the end gives you a good spacing for the insulators. For the feed point, use yet another piece of PVC pipe, drilling a hole through the center to provide for a strain relief for the feedline. Put the stress on the pipe, not on the antenna or on the feedline. Pull up your antenna into the trees or your tower very carefully, making sure that it is as close as possible to the design you chose to make the antenna. Box or rectangle loop, or a triangle, spacing them out as much as possible. Yes, you can fudge a little if you you have to on the sides, making one a little longer, but its best to keep your antenna as practical as possible to the design.

https://www.wikihow.com/Build-Several-Easy-Antennas-for-Amateur-Radio

## EMERGENCY COMMUNICATION REPORT

Sandy Gragg

A plan to restart a Fayette County ARES net is beginning to materialize. We are working to establish a group of all those interested in learning more about emergency communication. If someone is interested in learning more about this adventure, please contact Sandy Gragg.

The Fayette County ARES committee is looking for different activities to participate in, to practice our skills. If you are aware of any activity that may be able to use our communication skills, please let of know. Several BARS members participated in the emergency exercise for Lex EOC (tornado drill) on the March 26th .

Sandy Gragg was appointed as ARES Emergency Coordinator and John Frost as the Assistant Emergency Coordinator.

For information about the ARES, or Emergency Communications, please contact Sandy Gragg. Phone number: 859-699-9934.

## Bluegrass Amateur Radio Society (BARS) General Meeting Minutes of April 1, 2019 Red Cross Building, Lexington, Ky.

The April, 2019, BARS General Meeting was called to order at 7:34pm by President Andrew Cook, KF4OWP.

Self-introductions were made by nineteen(19) licensed members, which composed a quorum, plus two non-licensed members and two licensed visitors.

Program:

David Richardson, W9KHZ, Mark Elliott, KN-4HVX, and Mike Saulsbury, WB0JZO, displayed their Go-kits for portable emergency operations. Other members described their arrangements and set-ups for portable operations.

Club and Members' News.

No members' activities were reported for this month.

Treasurer's Report – John Barnes, KS4GL.

One membership application that was recommended by the Board of Directors at their

(continued on page 12)

(continued from page 11 General meeting)
March meeting was presented for Danny Baailey, KG4KYH. Bob Brown, KI4JWK, moved, and Bill Weaver, WE5P, seconded for acceptance of the membership application, which was approved by unanimous vote.

The summary treasurer's report of amounts in the Treasurer's records in bank accounts as of March 31, 2019, are:
Checking account:
General fund: $8,534.43
Coax/repeater: 804.98
Education: 1,934.29
$11,273.70
PayPal account:
3,341.24
Savings account:
200.98
Total balance of accounts:
$14,815.92
NOTE: Bank Account Statements ending March 31, 2019, had not yet been received in time for reporting at the April 1st General Membership Meeting.
Tim Kunkel, KF4MPM, moved and Bart Breeding, KB4FEE, seconded to accept the treasurer's report, which was approved unanimously.
Committee Announcements.
Contest – Pete Kragh, K2UPD: (no announcements).
Education – Bill Fuqua, WA4LAV: Nothing to announce.
Emergency Preparedness - Sandy Gragg, KM4PJU.
Sandy Gragg, KM4JPU, has been named as Emergency Communications Coordinator for Fayette County, where he will provide BARS presence and representation, and will work to restart the Tuesday night ARES net.
Hamfest – David Richardson, W9KHZ: Nothing to announce.
Newsletter – Bart Breeding, KB4FEE: Nothing to announce.
Program – David Richardson, W9KHZ: The May program topic will be DMR (Digital Mo bile Radio).
Program – David Richardson, W9KHZ:
May – Antenna Theory,
June – DMR(Digital Mobile Radio).
Public Relations and Membership – Bart Breeding, KB4FEE:
Nothing to announce.
Repeater – Andrew Cook, KF4OWP: Nothing to announce.
Shack – David Richardson, W9KHZ: Mike Saulsbury, WB0JZO, has refurbished and restored the ground integrity in the shack.
Volunteer Examinations – Fernie Williams, KE6MAI (no announcements).
Historian - Bill DeVore, N4DIT: Nothing to announce.
Librarian – John Barnes, KS4GL: Nothing to announce.
MARS – Harvey Fry, AA4HF, and Barry Jackson, WB4N: (no announcements).
Trustee: Shack – Andrew Cook, KF4OWP: (no announcements).
VHF Repeater – Andrew Cook, KF4OWP: Nothing to announce.
Bylaws – Andrew Cook, KF4OWP: The Bylaws committee is meeting each month at 6:00pm before the General Meetings and the Directors' Meetings to revise the current Bylaws. The com mittee meeting is open to all BARS members for input and discussion.
Special Interest Groups News.
No announcements.
Old Business.
1) Antenna maintenance will be delayed until favorable weather in the Spring.
2) Donated equipment is being cataloged for listing on E-bay.
New Business.
1) President Andrew Cook, KF4OWP, asked for a motion for BARS to pay its $35.00 annual membership fee to SERA (Southeast Repeater Associ ation) for repeater listing and frequency coordination services that was recommended by the Board of Directors at their March meeting. Bill Weaver, WE5P, so moved and Bart Breeding, KB-4FEE, seconded, and the motion was approved without objection.
With no other business at 8:51pm, Bob Brown, KI4JWK, moved, and Bill Weaver, WE5P, seconded, that the meeting be adjourned, which was approved unanimously.
The next BARS scheduled meetings and activities:
Bylaws Committee Meeting: Monday, April 15th, 6:00pm.
Directors' Meeting: Monday, April 15th, 7:30pm.
Bylaws Committee Meeting: Monday, May 6th, 6:00pm.
BARS General Meeting: Monday, May 6th, 7:30pm.
Program: Antenna Theory.
Dayton/Xenia Hamfest: May 17th – 19th.
Bylaws Committee Meeting: Monday, May 20th, 6:00pm.
Directors' Meeting: Monday, May 20th, 7:30pm.
Field Day: June 22nd – 23rd at Veterans' Park.
Recorded and submitted by:
Bruce A. Campbell, KM4EHU, Secretary

Bruce Draper, AA5B, aa5b.corral@gmail.com

# Contest Corral May 2019

Check for updates and a downloadable PDF version online at **www.arrl.org/contests**.
Refer to the contest websites for full rules, scoring information, operating periods or time limits, and log submission information.

| Start - Finish Date-Time | | Date-Time | | Bands | Contest Name | Mode | Exchange | Sponsor's Website |
|---|---|---|---|---|---|---|---|---|
| 1 | 1300 | 1 | 1900 | 3.5-28 | AGCW QRP/QRP Party | CW | RST, serial, class ID | agcw.org/index.php/en |
| 2 | 1700 | 2 | 2100 | 28 | NRAU 10-Meter Activity Contest | CW Ph Dig | RS(T), 6-char grid square | nrau.net/activity-contests |
| 2 | 1900 | 2 | 2100 | 1.8-28 | SKCC Sprint Europe | CW | RST, SPC, name, mbr or power | www.skccgroup.com |
| 3 | 2300 | 4 | 0300 | All | MIE 33 Contest | CW Ph | RS(T), age, "ME" or "MEJ" (if either) | www.ztv.ne.jp/isoda/33/annual/41/41rule-e.html |
| 4 | 0000 | 5 | 1600 | 50, 144 | Araucaria World Wide VHF Contest | CW Ph | RS(T), 6-char grid square | www.avhfc.com/rules/en.pdf |
| 4 | 0001 | 5 | 2359 | 28 | 10-10 International Spring Contest, CW | CW | Name, mbr or "0," SPC | www.ten-ten.org |
| 4 | 0600 | 5 | 2359 | 2.3 GHz and up | SBMS 2.3 GHz and Up Contest | CW Ph Dig | 6-char grid square | n6nb.com/sbmsrules.htm |
| 4 | 0800 | 4 | 1400 | All above 902 | Microwave Spring Sprint | CW Ph Dig | 6-char grid square | sites.google.com/site/springvhfupsprints |
| 4 | 1200 | 5 | 1159 | 3.5-28 | ARI International DX Contest | CW Ph Dig | RS(T), 2-letter province or serial | www.ari.it |
| 4 | 1300 | 5 | 0700 | 1.8-28 | 7th Call Area QSO Party | CW Ph Dig | RS(T), 5-letter state/county code or SPC | ws7n.net/7QP |
| 4 | 1500 | 5 | 0300 | 1.8-28 | Indiana QSO Party | CW Ph | RS(T), county or SPC | www.hdxcc.org/inqp |
| 4 | 1700 | 4 | 2100 | 3.5-28 | FISTS Spring Slow Speed Sprint | CW | RST, SPC, name, mbr or power | fistsna.org |
| 4 | 1700 | 5 | 2359 | 1.8-VHF | Delaware QSO Party | CW Ph | RS(T), county or SPC | www.fsarc.org/qsoparty |
| 4 | 2000 | 5 | 2359 | 3.5-28 | New England QSO Party | CW Ph Dig | RS(T), county+state or SPC | www.neqp.org |
| 7 | 0100 | 7 | 0300 | 3.5-28 | ARS Spartan Sprint | CW | RST, SPC, power | arsqrp.blogspot.com |
| 11 | 1200 | 12 | 1159 | 1.8-28 | CQ-M International DX Contest | CW Ph | RS(T), serial | cqm.srr.ru/en-rules |
| 11 | 1200 | 12 | 1200 | 3.5-28 | VOLTA WW RTTY Contest | Dig | RST, serial, CQ zone | www.contestvolta.com |
| 11 | 1200 | 12 | 2359 | 1.8-50 | SKCC Weekend Sprintathon | CW | RST, SPC, name, mbr or "none" | www.skccgroup.com |
| 11 | 1400 | 12 | 0200 | 3.5-28, 144 | Arkansas QSO Party | CW Ph Dig | RS(T), county or SPC | www.arkqp.com |
| 11 | 1700 | 11 | 2100 | 3.5-28 | FISTS Spring Unlimited Sprint | CW | RST, SPC, name, mbr or power | fistsna.org/operating.html#sprints |
| 11 | 2300 | 12 | 0300 | 50 | 50 MHz Spring Sprint | CW Ph Dig | 4-char grid square | sites.google.com/site/springvhfupsprints |
| 12 | 1000 | 12 | 1400 | 7 | WAB 7 MHz Phone/CW | CW Ph | RS, serial, WAB square or country | wab.intermip.net |
| 13 | 0000 | 13 | 0200 | 1.8-28 | 4 States QRP Group Second Sunday Sprint | CW Ph | RS(T), SPC, mbr or power | www.4sqrp.com |
| 13 | 1900 | 13 | 2030 | 3.5 | RSGB 80-Meter Club Championship, SSB | Ph | RS, serial | www.rsgbcc.org/hf |
| 16 | 0030 | 16 | 0230 | 3.5-14 | NAQCC CW Sprint | CW | RST, SPC, mbr or power | naqcc.info |
| 17 | 0900 | 19 | 1700 | 3.5-28 | Portuguese Navy Day Contest | CW Ph Dig | RS(T), mbr or serial | www.nra.pt |
| 18 | 0600 | 18 | 2100 | 3.5-28 | UN DX Contest | CW Ph | RS(T), district code or serial | undxc.kz/bez-rubriki/2015-2 |
| 18 | 0800 | 19 | 1100 | 3.5 | NZART Sangster Shield Contest | CW | RST, serial, branch number (if ZL) | nzart.org.nz/activities |
| 18 | 1200 | 19 | 1200 | 1.8-28 | His Majesty King of Spain Contest, CW | CW | RST, province or serial | concursos.ure.es/en |
| 18 | 1200 | 19 | 1200 | 3.5-28 | EU PSK DX Contest | Dig | RST, EU area code or serial | www.eupsk.com |
| 18 | 1200 | 19 | 1200 | 3.5-28 | Aegean RTTY Contest | Dig | RST, serial | www.aegeandxgroup.gr |
| 18 | 1600 | 18 | 2159 | 1.8-50 | Feld Hell Sprint | Dig | RST, mbr, SPC, grid | sites.google.com/site/feldhellclub |
| 18 | 2100 | 19 | 0200 | 3.5 | Baltic Contest | CW Ph | RS(T), serial | lrsf.lt/en/balticcontestrules |
| 20 | 0100 | 20 | 0300 | 1.8-28 | Run for the Bacon QRP Contest | CW | RST, SPC, mbr or power | qrpcontest.com/pigrun |
| 22 | 0000 | 22 | 0200 | 1.8-28 | SKCC Sprint | CW | RST, SPC, name, mbr or power | www.skccgroup.com |
| 22 | 1900 | 22 | 2030 | 3.5 | RSGB 80-Meter Club Championship, Data | Dig | RST, serial | www.rsgbcc.org/hf |
| 25 | 0000 | 26 | 2359 | 1.8-28 | CQ WW WPX Contest, CW | CW | RST, serial | www.cqwpx.com |
| 30 | 1900 | 30 | 2030 | 3.5 | RSGB 80-Meter Club Championship, CW | CW | RST, serial | www.rsgbcc.org/hf |

All dates refer to UTC and may be different from calendar dates in North America. Contests are not conducted on the 60-, 30-, 17-, or 12-meter bands. Mbr = Membership number. Serial = Sequential number of the contact. SPC = State, Province, DXCC Entity. XE = Mexican state. Listings in blue indicate contests sponsored by ARRL or *NCJ*. The latest time to make a valid contest QSO is the minute listed in the "Finish Time" column. *Data for Contest Corral is maintained on the WA7BNM Contest Calendar at* ***www.contestcalendar.com*** *and is extracted for publication in* QST *2 months prior to the month of the contest. ARRL gratefully acknowledges the support of Bruce Horn, WA7BNM, in providing this service.*

TREASURER'S REPORT
Respectfully submitted by John Barnes/KS4GL, Treasuer
BLUEGRASS AMATEUR RADIO SOCIETY, INC.
INCOME, EXPENSES, AND ACCOUNT BALANCES
as of March 31, 2019

| INCOME: | Checking Account | PayPal Account | Savings Account | Total |
|---|---|---|---|---|
| ARRL Dues | 0.00 | 0.00 | 0.00 | 0.00 |
| BARS Dues | 103.00 | 0.00 | 0.00 | 103.00 |
| Coax/Repeater | 0.00 | 0.00 | 0.00 | 0.00 |
| Donations | 158.00 | 0.00 | 0.00 | 158.00 |
| Education | 25.00 | 0.00 | 0.00 | 25.00 |
| Hamfest | 0.00 | 0.00 | 0.00 | 0.00 |
| Interest | 2.55 | 0.00 | 0.04 | 2.59 |
| Sales Tax | 0.00 | 0.00 | 0.00 | 0.00 |
| Miscellaneous | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 288.55 | 0.00 | 0.04 | 288.59 |

| EXPENSES: | | | | |
|---|---|---|---|---|
| ARRL Dues | 0.00 | | | 0.00 |
| Coax/Repeaters | 0.00 | | | 0.00 |
| Donations | 158.00 | | | 158.00 |
| Education | 0.00 | | | 0.00 |
| Election | 0.00 | | | 0.00 |
| Equipment | 0.00 | | | 0.00 |
| Field Day | 0.00 | | | 0.00 |
| Hamfest | 0.00 | | | 0.00 |
| Insurance | 0.00 | | | 0.00 |
| Miscellaneous | 234.21 | | | 234.21 |
| Newsletter | 0.00 | | | 0.00 |
| Picnic | 0.00 | | | 0.00 |
| P O Box | 0.00 | | | 0.00 |
| Sales Tax | 0.00 | | | 0.00 |
| Telephone | 0.00 | | | 0.00 |
| Total | 392.21 | | | 392.21 |

ACCOUNT BALANCES

| | February 28, 2019 | March 31,2019 |
|---|---|---|
| Checking Balance* | 11379.91 | 11276.25 |
| PayPal Balance | 3341.24 | 3341.24 |
| Savings Balance | 200.94 | 200.98 |
| Total Balance | 14922.09 | 14818.47 |

* Fund-specific balances in Checking Account

| | | |
|---|---|---|
| General | 8665.64 | 8536.98 |
| Coax/Repeater | 804.98 | 804.98 |
| Education | 1909.29 | 1934.29 |
| Total Checking | 11379.91 | 11276.25 |

(continued from page 9, Director's Meeting)
Bylaws: Andrew Cook, KF4OWP. Secretary Bruce Campbell, KM4EHU, Reported that the revisions to the Bylaws are reaching the point that they will soon be ready to submit to the Directors' for rounds of preliminary approvals before they are presented to a general membership vote for adoption. The Bylaws committee meeting is open to any interested BARS member.

A set of BARS Standard Operating Procedures is being formulated at the Bylaws Committee meetings, and input is welcome from members.

Old Business:

Antenna maintenance activities are postponed until favorable weather in the Spring.

New Business:

1) The $35.00 membership fee in the Southeast Repeater Association (SERA) was considered.

Upcoming BARS Schedule:
April 1st, 6:00pm - Bylaws Committee Meeting.
April 1st, 7:30pm - BARS General Meeting. Program: GO-kits.
April 15th, 6:00pm - Bylaws Committee Meeting.
April 15th, 7:30pm - Directors' Meeting.
May 6th, 6:00pm - Bylaws Committee Meeting.
May 6th, 7:30pm - BARS General Meeting. Program: Antenna Theory.
May 17th – 19th – Dayton/ Xenia Hamfest.
May 20th, 6:00pm - Bylaws Committee Meeting.
May 20th, 7:30pm - Directors' Meeting.

With no other business at 8:56pm, John Barnes, KS4GL, moved, and Tim Kunkel, KF4MPM, seconded that the meeting be adjourned, which was approved without objection.

Recorded and submitted by:
Bruce Campbell, KM4EHU
Secretary

QUA/HAMnews is published monthly by the Newsletter Committee of the Bluegrass Amateur Radio Society, Inc., and is distributed by e-mail only.
Letters to the editor, technical articles, items of interest to the Ham community and guest editorials are invited and will be published at the discretion of the editor. Items for sale by members of the Society will be advertised without charge for one issue, and may be resubmitted as often as desired. These ads must be non-commercial in nature.
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Annual Dues (January 1 - December 31)
Payable using Pay Pal - Go to <http://www.BluegrassARS.org>, Click on "Membership," click on the option for your preference as below:
Regular Membership: One year - $20.00; two years - $38.00; three years - $55.00 (Additional family member(s) at the same address $1.00 each per year)
Associate Membership - $15.00 (for those who reside farther than 50 miles from Lexington)
Full-Time Student Membership - $12.00 (for those 21 and under, and no other Club member in the family)
Shack telephone: (859) 231-0974 web page: http:/www.BluegrassARS.org/

# Calendar of Ham Radio Activities for April 2019

Wed 1 Six Shooters Net, 8:00 PM on 52.525 MHz FM (vertically polarized);
Thu 2 Meeting of Bluegrass ARS Technical Group, 6:30 PM, Education Ctr, basement, Red Cross Building, 1450 Newtown Pike, Lexington; Jessamine Cty ARES Net, 7:30 PM, 145.490 Repeater, Gary Britten W4GNB net control.
Sat 4 Shack open 9:00-Noon; Radio Theory and Construction Workshop, 1:00-3:00 PM,;
Sun 5 Amateur Television & Specialized Communications Net, 9:00 PM (146.760 Repeater); District 11 Skywarn Net, 8:00 PM, 146.925 PL-79.7 Hz) linked to 147.180 (PL-74.4 Hz) linked to 147.180 (PL-74.4) and other repeaters in the area.
Mon 6 By-Laws Meeting, 6:00 pm; Bluegrass ARS Club meeting, 7:00 PM, Meeting Room "B," Red Cross Bldg, 1450 Newtown Pike; District 11 ARES Net 9:00 PM 146.925 (PL-79.7) linked to 147.180 (PL-74.4).
Jessamine Amateur Wireless Society meeting, 7;00 PM, St. Joseph/R.J. Corman Ambulatory Care Center, 1250 Keene Road, Nicholasville; District 11 ARES Net 9:00 PM 146.925 (PL-79.7) linked to 147.180 (PL-74.4).
Tue 7 Amateur Swap Net 145.370 (T-192.8) 8:00 PM; "Casual Communicators Net," 9:00 PM Eastern, 443.325+ MHz;
Wed 8 Six Shooters Net, 8:00 PM on 52.525 MHz FM (vertically polarized);
Thu 9 Meeting of Bluegrass ARS Technical Group, 6:30 PM, Education Ctr, basement, Red Cross Building, 1450 Newtown Pike, Lexington; Jessamine Cty ARES Net, 7:30 PM, 145.490 Repeater, Gary Britten W4GNB net control.
Sat 11 License Exam Session, Lexington: ARRL Liaison Fernie Williams/KE4MAI, ke4mai@arrl.net, 859-652-3393; Shack open 9:00-Noon; Radio Theory & Construction Workshop, 1:00-3:00 PM, basement, Red Cross Bldg, 1450 Newtown Pike;
Sun 12 Amateur Television & Specialized Communications Net, 9:00 PM (146.760 Repeater); District 11 Skywarn Net, 8:00 PM, 146.925 (PL-79.7 Hz) linked to 147.180 (PL-74.4 Hz)\
Mon 13 District 11 ARES Net 9:00 PM 146.925 (PL-79.7) linked to 147.180 (PL-74.4) and other repeaters in the area.
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Wed 15 Six Shooters Net, 8:00 PM on 52.525 MHz FM (vertically polarized);
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Fri 17 Dayton/Xenia Hamfest
Sat 18 Shack open 9:00-Noon; Radio Theory and Construction Workshop, 1:00-3:00 PM, basement, Red Cross Bldg, 1450 Newtown Pike; Dayton /Xenia Hamfest
Sun 19 Amateur Television & Specialized Communications Net, 9:00 PM (146.760 Repeater); District 11 Skywarn Net, 8:00 PM, 146.925 (PL-79.7 Hz) linked to 147.180 (PL-74.4 Hz)\; Dayton/Xenia Hamfest
Mon 20 By-Laws Meeting, 6:00 pm; Directors Meeting 7:00 pm; District 11 ARES Net 9:00 PM 146.925 (PL-79.7) linked to 147.180 (PL-74.4) and other repeaters in the area.
Tue 21 Amateur Swap Net 145.370 (T-192.8) 8:00 PM; "Casual Communicators Net," 9:00 PM Eastern, 443.325+ MHz; License Exam Session, 6:00 pm,, K4TG Laurel VE Team, Anderson County Health Dept., 1180 Glensboro Rd., Lawrenceburg, KY contact Brian Carter/KI4TLW 502-545-0376
Wed 22 Six Shooters Net, 8:00 PM on 52.525 MHz FM (vertically polarized);
Thu 23 Meeting of Bluegrass ARS Technical Group, 6:30 PM, Education Ctr, basement, Red Cross Building, 1450 Newtown Pike, Lexington; Jessamine Cty ARES Net, 7:30 PM, 145.490 Repeater, Gary Britten W4GNB net control.
Sat 25 Shack open 9:00-Noon; Radio Theory and Construction Workshop, 1:00-3:00 PM, ; License Exam Session,10:00 am, ARRL VEC, Wilderness Road Amateur Radio Club, American Legion post 46, 45 Spears Lane, Danville, KY contact JohnWulf/K4FT 563-505-0339: RCARA Tailgate Hamfest Location: Ashland, KY
Sun 26 Amateur Television & Specialized Communications Net, 9:00 PM (146.760 Repeater); District 11 Skywarn Net, 8:00 PM, 146.925 PL-79.7 Hz) linked to 147.180 (PL-74.4 Hz) linked to 147.180 (PL-74.4) and other repeaters in the area
Mon 27 District 11 ARES Net 9:00 PM 146.925 (PL-79.7) linked to 147.180 (PL-74.4) and other repeaters in the area.
Tue 28 Amateur Swap Net 145.370 (T-192.8) 8:00 PM; "Casual Communicators Net," 9:00 PM Eastern, 443.325+ MHz;
Wed 29 Meeting of Bluegrass ARS Technical Group, 6:30 PM, Education Ctr, basement, Red Cross Building, 1450 Newtown Pike, Lexington; Jessamine Cty ARES Net, 7:30 PM, 145.490 Repeater, Gary Britten W4GNB net control.
Thur 30 Meeting of Bluegrass ARS Technical Group, 6:30 PM, Education Ctr, basement, Red Cross Building, 1450 Newtown Pike, Lexington; Jessamine Cty ARES Net, 7:30 PM, 145.490 Repeater, Gary Britten W4GNB net control.