We do plan to meet this month via “ZOOM.”

Steve Frazier is inviting you to a scheduled Zoom meeting.

Topic: Delta Club December 2020 Member Meeting
Time: Dec 8, 2020 07:00 PM Central Time (US and Canada)

Join Zoom Meeting
https://us02web.zoom.us/j/6317803269?pwd=S05oajc3emljNDBBOFltdVRqR3N4dz09

Meeting ID: 631 780 3269
Passcode: 376888

Program: “QSLing in an online world” by Anthony Luscre K8TZ. More Information and links are posted online at https://deltaclub.org/links

For Ham License testing information, Contact Jeff Krause, AJ4GY at AJ4GY@comcast.net or call at 901-301-6776 for information.

There is a special testing session on Monday, Dec. 7 at 7:00 pm at the Ellendale Church. Be sure to email JOE at wa4ovo@gmail.com if you plan to test.
OLIVE BRANCH ARC JUNK IN THE TRUNK

Saturday, December 12, 2020

On Saturday, December 12th, beginning at 9:00am, OBARC will sponsor a "Junk in the Trunk" Ham Radio mini-flea market. As the name implies, this will be an outdoor event open to the public where you can peddle, out of the back of your vehicle, any radio gear that you'd like to get rid of, or find a deal on some gear you need. Anyone may participate, and no pre-registration is required. Parking and setup will be first come first served.

The location will be the Pleasant Hill Elementary School Parking lot, 7686 Pleasant Hill Rd in Olive Branch. You can find it easy enough by going to the intersection of Pleasant Hill and Goodman Roads (Hwy 302). Head north on Pleasant Hill Road for about a mile; the school will be on the right. You may want to come a little early to grab a parking spot and setup, but the official start time will be 9:00am and it will run till around noon or when we stop having fun, whichever comes first.

In the event of bad weather, it will reschedule to the 19th of December at the same time and location. In light of the ongoing spike in CoVID-19 cases, we ask that you consider wearing a mask.

If you have any questions, email me at denniswofford@gmail.com.
You would think that by now we would be accustomed to the new normal due to Covid-19 during 2020. While we may not forget to grab our mask when we get out of the car as much as we did earlier this year, I think we all miss the traditions and activities that have changed. This will be especially obvious during this holiday season. While we still may have some small gatherings with a smaller part of our immediate family, I think it is safe to say we will all miss the larger gatherings with friends and associates that we usually enjoy during this time of the year. I know I will miss the Delta Club potluck dinner this year. This is always a great time to visit even more than we usually do during the other monthly meetings and I promise we will do it again as soon as it is practical.

During the December potluck dinner, we usually recognize some of our members as New Ham of the year and Ham of the year. The Board of Directors discussed this during recent meetings. While we have had a large number of our members help the club continue to function during this challenging year, we struggled more than usual to select who we should recognize this year. This was not due to lack of member enthusiasm and support but more a lack of opportunities to participate this year. This year we want to thank each of you - new and not so new - for supporting Delta Club and the amateur radio community.

I would like to give a special thank you to all of the Net Control Operators. During this year known for isolation and disconnecting, you have made sure each night that our members were not isolated and that we were all able to stay connected.

I would also like to take this opportunity to personally say thank the Board members who will be leaving the Board of Directors this month. I appreciate your time, talents, dedication and input not only during this challenging year; but during your entire time serving on the Board of Directors.

73 to all

Steve Frazier
KK4VPT
Please RENEW your Delta membership right away, so you won’t forget about it! Download the new member or renewal form: https://img1.wsimg.com/blobby/go/58124ffdad6ca-4502-9af3-7fa04c033729/downloads/application-15-3.pdf?ver=1574454355059

Membership for one is $20 or family is $25. You can fill out the form online and email to David Jackson KM4SEC. davidjackson@bellsouth.net

If you prefer you can print the form and bring the completed form, along with the membership fee to any meeting.
DARC Board of Directors Meeting Minutes
Submitted by Mary Jean Hall KN4FBL

DARC Board of Directors Meeting Minutes for December 1, 2020

Attendees: Steve Frazier KK4VPT, Bob Van Keuren KM4SEB, Mary Jean Hall KN4FBL, David Jackson KM4SEC, Joe Lowenthal WA4OVO, Bob Vawter KW4RJ, Ian Lucas KN4OEK, Scott Adams KM4PMU, Barry McDonald W5CJ and Len Grice W4MKS.
Absent: N/A
Guests: Jim Martin KD4FUU, Carolyn Horne KX4QF, Ray Cole KX5RC and Mike Harrison KN4MRW

The regular monthly meeting of the Delta Amateur Radio Club Board of Directors was held on Tuesday, December 1, 2020 at 6:30 p.m. on a Zoom video conference call, with the President serving as chair and the Secretary being present. Four guests were present. President Steve Frazier KK4VPT called the meeting to order. Due to the COVID-19 Pandemic, the board met online to abide by state and local guidelines.

Joe Lowenthal said the current General Class will test at 7 p.m. Monday, December 7, 2020 at the Ellendale Church of Christ. Anyone else wishing to sit for a test should email Joe at wa4ovo@gmail.com by Sunday, December 6, 2020 around noon so the VEs can ensure that enough tables are arranged for proper social distancing. Masks will be required.

Barry McDonald said that he replaced the repeater at the 82 site to see if the condition changes. He will continue to monitor the repeater. Also, the 443.200 repeater is now back online.

The board reviewed and voted on the memberships per the club’s bylaws.

David Jackson read the Treasurer’s Report. The motion to approve it unanimously passed.

The board discussed consignment and estate sale items.

Ian Lucas said Anthony Luscre K8ZT, who is currently serving as the ARRL Ohio Section Youth Coordinator, will be the guest speaker during the December Delta Club meeting.

The board discussed the Ham of the Year and New Ham of the Year awards and decided to postpone the awards until a later meeting.
Joe Lowenthal made a motion to adjourn, and David Jackson seconded the motion. Without objection, Steve Frazier adjourned the meeting at 7:29 p.m. The next Board of Directors meeting is scheduled for Tuesday, January 5, 2021 at 6:30 p.m. at Ellendale Church of Christ. Should it not be possible to meet in person, the board meeting will be held online through Zoom.

Respectfully submitted by Mary Jean Hall KN4FBL, Secretary

DARC Meeting Minutes for November 10, 2020

**Call to Order and Opening Remarks**
The regular monthly meeting of the Delta Amateur Radio Club was held on Tuesday, November 10, 2020 at 7:00 p.m. on a Zoom video conference call, with the President serving as chair and the Secretary being present. Club President Steve Frazier KK4VPT called the meeting to order and then welcomed everyone to the meeting. Due to the COVID-19 Pandemic, the club met online to abide by state and local guidelines. At least 55 members and guests were present for the meeting.

**Minutes and Treasurer’s Report**
Joe Lowenthal WA4OVO moved to “approve the minutes and Treasurer’s Report as published in Sparks.” Tom Thibeault KN4SLP seconded the motion. The motion was unanimously adopted by the club.

**Announcements**
Joe Lowenthal WA4OVO said there are currently six students in the General Class. He is planning an Extra Class, possibly to start in January. If you are interested in the class email Joe at wa4ovo@gmail.com.

Joe Lowenthal WA4OVO encouraged members to submit comments to the FCC against the proposed fee for amateur radio licenses, renewals, etc. The deadline to comment is November 15, 2020. More information about the proposal and how to comment is mentioned in the November edition of Sparks.

Steve Frazier KK4VPT announced the nominees for the 2021 Delta Amateur Radio Club Board of Directors:
President – Steve Frazier KK4VPT
Vice President – Mary Jean Hall KN4FBL  
Treasurer – Jim Martin KD4FUU  
Secretary – Carolyn Horne KX4QF  
Director(s) of Programs – Ray Cole KX5RC and Ian Lucas KN4OEK  
Director of Publications – Mike Harrison KM4MRW  
Director of Meetings & Special Events – Scott Adams KM4PMU  
Director of Training – Joe Lowenthal WA4OVO  

These individuals were nominated during the October Delta Club meeting; no additional nominations were made during the November meeting. Len Grice W4MKS made a motion to accept the nominated members to the Board of Directors for 2021. Joe Lowenthal WA4OVO seconded the motion. The club unanimously approved the nominated board members for the 2021 year.

Steve Frazier KK4VPT took a moment to recognize the veterans in the club and said, “Thank you to everybody who served in the past, who is serving now, and for continuing to serve the ham radio community.”

Steve Frazier KK4VPT announced that the Swamp Stompers event has been scheduled for January 16, 2021. He will update the club as more information becomes available.

Joe Lowenthal WA4OVO reminded members, especially newer ones, that the state is still not processing specialty license plates, which includes the amateur radio emergency license plates. He said that the building in northeast Nashville that creates the license plates was destroyed during the February tornado.

**Discussion / Program**  
For the November program, Ian Lucas KN4OEK gave a presentation on DMR programming.

**Closing Remarks**  
Marc Gwin AG5QY announced that there is now a ham radio “buy and sell” group on Facebook specifically for the Memphis area. The link to the group is listed in the November edition of Sparks.

Mary Jean Hall KN4FBL reminded members to start renewing their Delta Club memberships for the 2021 year. Membership applications need to be mailed in since we are not meeting in-person due to Covid. She encouraged everyone to keep in mind that, though we have not been meeting in-person due to Covid, the money from dues helps keep the repeaters and other equipment up and running. The membership application can be found on the club’s website, [www.deltaclub.org](http://www.deltaclub.org), and the mailing address is listed on the top of the application.
Steve Frazier KK4VPT let members know that we will have a meeting scheduled for December.

The meeting adjourned at 8:20 p.m.

The next Delta Amateur Radio Club meeting will be Tuesday, December 8, 2020 at 7:00 p.m. If the meeting is held in person, it will be at the Ellendale Church of Christ. If it is not possible to meet in person, the meeting will be held online, likely via Zoom.

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**Delta Ham License Training, 2020**
Submitted by Joe Lowenthal WA4OVO, DIRECTOR OF TRAINING

**HAM LICENSE TRAINING for 2020**
By Joe Lowenthal WA4OVO, Director of Training

There is no charge for classes, but the student is responsible for the purchase of the license manual and the $15 ARRL FCC examination fee.

If you want to take a class, send an email to Joe at wa4ovo@gmail.com with the class name; ie, Tech Class, General Class, or Extra Class, on the Subject line and name, callsign if you have one, email address, and cellphone number in the text.

**Licenses Earned in 2020 from Delta Classes**
20 Technician
5 General
4 Extra
Note:
The current Technician ARRL Ham Radio License Manual Fourth Edition with question pool that became effective July 1, 2018 for four years. This is the new question pool.

The current ARRL General Class License Manual is the Ninth Edition with question pool that became effective July 1, 2019 for four years.

The current ARRL Extra Class License Manual is the Twelfth Edition with question pool that became effective July 1, 2020 for four years.

As of September 3, 2015 there is no longer any charge for Vanity callsigns.

As of late 2019, expired Amateur Radio license holders can get their license back by taking the current Technician exam and show proof of their previous license class. A previous Advanced Class licensee will only be able to get a General Class license.

PROPOSED CLASSES

All classes will be 3-1/4 to 4 hours long for six sessions; one per week on a week night 6:15pm-9:30pm or Saturday day 9am-1pm.

The next Amateur Extra class will probably start in early January.
The next Technician class will probably start in late February.

PROPOSED EXTRA CLASS

An Extra Class license class will be held via Zoom if there are 6 students. Currently three students have expressed interest. The classes will start in early January on a week night for 6 weeks from 6:15-9:30pm. The class day, probably on Monday or Thursdays, will depend on student’s requirements. If interested, send email with name, callsign, cellphone number and email address to wa4ovo@gmail.com with Subject: Extra Class.

CURRENT CLASSES

General Class 4-20 – October 26 – December 7, 2020

General Class 4-20 is being held via Zoom with six students registered. It will be held on six nights on Monday and Thursday nights from October 26th to December 7th from 6:15-9:30pm. The nights are Monday October 26, Monday November 2nd, Thursday November 12th, Monday 23rd and ARRL FCC testing Monday December 7th. The instructors are Perry N4GJ, Barry W5CJ, Paul KA9VAU, Len W4MKS, John KN4BVH, Pat W4OQG, and Joe WA4OVO.
SCHEDULED CLASSES
None

COMPLETED CLASSES

Tech Class 3-20 – June 25 – August 13, 2020

Tech Class 3-20 is being held starting June 25\textsuperscript{th} on six Thursday nights from 6:15-9:30pm on a combination of Zoom online and planned in person classes. There are twelve students in the class. One of the students is eight years old. Both of his parents are in the class. The classes are being held on June 25, July 2, 9, 23, 30 and August 13. The Zoom classes continued thru the July 23rd class. The Laurel FCC test session was held in the gym at Germantown United Methodist Church, 2323 West Street, using social distancing.

Tech Class 3-20 Test Session Photo by Rick Tillman WA4NVM
Congratulations to Carla Andrews KO4FVX, Ryan Bednar KO4FVY, Ransom Bowen KO4FVZ, David Harkleroad KO4FWB, Phillip Green II KO4FWC, Brian Richards KO4FWD, Cynthia Spain KO4FWE, and Philip Thomas KO4FWF for obtaining their Technician licenses. Additional congratulations to Ryan KO4FVY and Cynthia KO4FWE for also upgrading to General. Thanks to Joe WA4OVO, Perry N4GJ, Barry W5CJ, Jelly N4HLT and Rick WA4NVM for providing the Laurel VEC test session.
Laurel VEs
Jelly N4HLT,
Joe WA4OVO,
Perry N4GJ,
Barry W5CJ
with
photographer
Rick
WA4NVM.
The instructors
were Joe
Lowenthal
WA4OVO,
Paul Roberts
KA9V AU, Len
Grice W4MKS, Perry Hayes N4GJ, John Reiners KN4BVH, and Pat Lane
W4OQG.

On August 13th the class met via Zoom for some of the equipment demonstrations. Rick Tillman WA4NVM gave a very informative instruction on satellite operations. Rick Pellicciotti KJ4NWQ informed the class on APRS. Joe WA4OVO presented more detailed information on Repeater Basics. The HF Wire Antennas by Pat W4OQG and programming handhelds has been deferred until we can meet. John KN4BVH provided FM digital instructions on DMR, Fusion, and D-STAR during an earlier class. Barry W5CJ provided earlier demonstrations on Echolink and information on Allstar.

**General Class on Zoom – March 24 – April 10, 2020**

Working with K1ZG in Massachusetts, I helped provide instruction with an online General license class on the Zoom platform. This General class was offered to the Tech Class 2-20 students. One student did participate from 1-2:30pm on week days. Students were from Massachusetts, upstate New York, Indiana, Texas and Tennessee. Barry W5CJ and Ed KV4LF were also instructors. When FCC testing resumes, we will see how well the students retained their learning. Congratulations to Kyle KD2TCA for upgrading on April 3rd at a drive-thru test session. Congratulations to Debra Johnson from the Tech 2-20 for earning her General as noted below.
Tech Class 2-20 was held from February 22nd to March 21st on four Saturdays except March 14th from 9am to 1pm. The first three sessions were at the Memphis Police Department Appling Farms Station precinct, 6850 Appling Farms Pkwy. Due to the coronavirus the last instructional class was held online on GoToMeeting. While the order for 10 or less people in a meeting was active, we had arranged to have the Laurel VE team provide testing at a student’s shop with only five students testing at a time. However, the Safer at Home order cancelled those plans.

Congratulations to Jennifer Boardman KX4YG for Tech, General and Extra; Deborah Johnson KO4DEP for Tech and General; and Thomas Clark KO4DEQ, Elliot Pope KO4DER and Marc Tester KO4DES for Tech. Thanks to the Tipton County ARS VE team led by Bob AI4GI with Ronny WA4RW and Bill KI4BIY for offering the test session. On July 30th with Tech Class 3-20 testing Michael Ehrhardt KO4FWA earned this Technician license.

Congratulations to Chris Smallwood for earning his Technician license on May 18th at the Tipton ARC test session. FCC testing for the others will be in the future after the Safer at Home declaration is lifted.

Tech Class 2-20 on first day of class. Photo by Joe Lowenthal WA4OVO
The instructors were Paul Roberts KA9VAU, Pat Lane W4OQG, John Reiners KN4BVH, Perry Hayes N4GY, Len Grice W4MKS, and Joe Lowenthal WA4OVO. There were no demonstrations for this class. Joe WA4OVO did cover the Repeater Basics at the end of the fourth class.
Extra Class 1-20 began on January 4th with six students for six Saturdays from 9am to 1pm at Memphis Police Department Neighborhood Watch training room at Appling Farms Station, 6850 Appling Farms Blvd. Congratulations to Bobby Stroud KK5PAC for upgrading early to Extra at the Jackson MS Capital City Hamfest on January 25th. Congrats to Brett Johnston KN4SMV for upgrading at the February 11th Delta Club test session. Congrats to Jim Harris KF5TPT for upgrading at the Olive Branch ARRL exam session on February 19th.

Dean Honadle N2LAZ demonstration left hand rule for Extra Class 1-20  
Photo by Joe Lowenthal WA4OVO

The instructors were Joe WA4OVO, Paul KA9VAU, Dean N2LAZ, Barry W5CJ, Dave AD4Q, David W4DWW and Pat W4OQG. The FCC testing was available on February 15th by the Delta Club ARRL VE team led by Jeff Krause AJ4GY.

Tech Review for CBU – February 5, 2020
A Tech Review class was held on February 5th for five Christian Brothers University students in the Engineering Department upper division elective course, Introduction to Unmanned Aerial Systems. Dr. Eric Welch WD5FTA requires the students to earn their FCC Technician license for this course.
CBU Tech Review Class

Photo by Joe Lowenthal WA4OVO

All five passed with great scores. Congratulations to Judit Aubets Macia KO4BPP, Josue Bohorquez KO4BPHammontree KO4BPT, Oscar Mendoza KI5ICD, and Samuel Ruleman KO4BPS. The Laurel VEC team provided the FCC exam session. The VEs were Bill Stevens WC9S, Barry McDonald W5CJ, Len Grice W4MKS, Jelly Thompson N4HLT, Eric Welch WD5FTA, and Joe Lowenthal WA4OVO.
General Class 4-19 – November 7 – December 19, 2019

General Class 4-19 was held on six Thursday nights from November 7th thru December 19th from 6:15-9:30pm. The 11 students began with eight completing the class. The location was at the Germantown Police Department training room, 1930 South Germantown Road.

Congratulations to Rodney KN4WGV, Robert KN4KFL, Mike KM4MRW, Bobby KK5PAC and Robert KN4RBW who upgrade to General at the class test session. Congratulations of Russell Rutledge KO4ASW who earned his Technician and General licenses. Congratulations to Shawn KN4WKF for upgrading at Delta Club test session on March 10, 2020.

The instructors were Joe WA4OVO, Barry W5CJ, Paul KA9VAU, Len W4MKS, John KN4BVH and Pat W4OQG. The Delta Club ARRL VE Team tested on December 19th. Thanks to the VE team of Jeff AJ4GY, Stacy KJ4MDA, Barry W5CJ, Tom KK4ZZZ, Warren KC7ND and Joe WA4OVO for providing the testing opportunity.
**General for CBU - November 20, 2019**
A General test session was held on November 20th for six Christian Brothers University students in the Engineering Department upper division elective course, Unmanned Aerial Systems Design. Congratulations to Matthew Donnelly KN4ZNI, Nicholas Ireland KN4ZNK and Zhaoliang Ni KN4ZNN for upgrading to General.

**Tech Review for CBU - October 30, 2019**
A Tech Review class was held on October 30th for eight Christian Brothers University students in the Engineering Department upper division elective course, Unmanned Aerial Systems Design. Dr. Eric Welch WD5FTA requires the students to earn their FCC Technician and General Class licenses for this course. There are 11 students in the class with three who had earned their Tech license last February in the Intro class.

All eight students earned their Technician license and five upgraded to General.

Congratulations to Mat Donnelly KN4ZNI, John Clark KN4ZNJ, Nicholas Ireland KN4ZNK, Jonathan Looney KI5GZS, Pablo Marin KN4ZNM and Zhaoliang Ni KN4ZNN who earned their Technician licenses. Congratulations to Riggs Markham KN4ZNL and Zach Yancy KN4ZNO who earned Tech and also upgraded to General.

Congratulations to Josue Becerra KN4SQK, Ian Dover KN4SQQ and Bryce Whitfield KI5DLE who upgraded to General.

Dr. Welch WD5FTA is the Department Chair of Electrical and Computer Engineering. The Laurel VE Team of Dr. Welch WD5FTA, Joe Lowenthal WA4OVO, Bill Stevens WC9S, Barry McDonald W5CJ and Perry Hayes N4GJ administered the FCC test session.

**Tech Class 3-19 – July 8 - August 12, 2019**
Tech Class 3-19 was held on six Monday nights from July 8th thru August 12th from 6:15-9:30pm The location was at the Germantown Police Department training room, 1930 South Germantown Road. Eleven students originally registered for the class, two more became students, and two resigned. So, eleven students completed the class. There was one ham who audited the class.

Congratulations to Rodney Adams KN4WGV, Daniel Brieck KN4WGW, Robert Broom KN4WXG, David Cary KN4WGY, Jim Dollar KN4WGW, Joshua Foster KN4WHA, Vicky Gamber KN4WHB, Lauren Martin KN4WHC, Matthew Massey KI5FYA, Jonathan Pesce KN4WHD, and Shawn Thomas KN4WKF who earned their Technician licenses. Congratulations also to Robert Broom and David Cary who also earned their General licenses, as well as, Mary Jean Hall KN4FBL who upgraded to General. Six more of the students tried for General but did not pass.
The instructors were Joe WA4OVO, Paul KA9VAU, Pat W4OQG, John KN4BVH, Perry N4GJ, and Len W4MKS. Barry W5CJ presented Echolink and Allstar information. John KN4BVH demoed DMR with information on D-Star and Fusion. On Monday, August 12th there was equipment demonstrations. Joe WA4OVO and John KN4BVH provided repeater basics and a CHIRP demo. The students checked into the Delta Net. Rick WA4NVM and Richard K4DXF made a live SO-50 satellite contact while Rick KJ4NWQ informed on APRS. Pat W4OQG showed off the non-FM side of ham radio with his Kenwood TS-200O HF SSB setup with a long wire and talked about MARS.

The Laurel VE team of Joe WA4OVO, Bill WC9S, Jelly N4HLT, David W4DWW, Karen AG4CC, Barry W5CJ, Len W4MKS and Perry N4GJ administered the 20 exams.

**Tech Class 2-19 – February 21-March 28, 2019**

Tech Class 2-19 was held on six Thursday nights from February 21 thru March 28th. The location was the Germantown Police Department training room, 1930 South Germantown Road. Sixteen students signed up for the class with thirteen attending the first class and a self-study Tech auditing the class. Eight students earned their ham radio licenses.

Congratulations to Chuck Chow KN4TMR, Al Dyer KN4TMQ, Brian Hagood KN4TME, Andrew Humphreys KN4TMG, Thomas Humphreys KN4TMF, Bryan Parker KN4TMH, Mark Parrish KN4TMO, and Bob Stroud KI5DWP who earned their Technician licenses. Chuck also earned his General Class license. Since the class Chuck has upgraded to Extra as KX4RE. Congratulations to Tom Thibeault KN4SLP who audited the class and upgraded to General. Two others will test at a later date. Thanks to the Laurel VEC team of Bill WC9S, Barry W5CJ, David KV4QI, Len W4MKS and Joe WA4OVO for providing the FCC test session.

Demonstrations were given on March 28th. John KN4BVH previewed DMR, Fusion, and Echolink. Joe WA4OVO instructed on programming FM radios and APRS while Pat W4OQG showed off HF and long wire antenna. Rick WA4NVM and Richard K4DXF made a satellite contact.
Tech Review for CBU  February 20, 2019
A Tech Review class was held on February 20th for 11 Christian Brothers University students in the second Engineering Department upper division elective course, Introduction to Unmanned Aerial Systems. All 11 students earned their Technician license. The students were either Electrical, Mechanical or Computer Engineering majors. Dr. Eric Welch WD5FTA is the professor. He is Department Chair of Electrical and Computer Engineering. The Laurel VE Team of Dr. Welch WD5FTA, Joe Lowenthal WA4OVO, Bill Stevens WC9S, Barry McDonald W5CJ and Len Grice W4MKS administered the FCC test session

Extra Class 1-19 January 5 – February 16, 2019
Extra Class 1-19 began on January 5th through February 16th excluding January 26th (Jackson MS Hamfest) on six Saturdays from 9am-1pm at the Memphis Police Department Northeast Precinct, Appling Farms Station, at 6850 Appling Farms Parkway. Nine students began with seven completing the class. Congratulations to Steve Evans KM4VYA, Carolyn Horne KX4QF, Jerry Kirkscey KX4QE, Robert Murry KN4OEF, and Bob Waters KN4PDW for earning their Extra Class license at the class ARRL FCC test session. Congratulations to Jim Martin KD4FUU who upgraded at the Delta Club test session on April 9th. The Delta Club VE Team of Jeff Krause AJ4GY, Joe Lowenthal WA4OVO, Barry McDonald W5CJ, Bill Stevens WC9S, and David Webb KV4QI provided the FCC test session on February 16th.
HOW TO PRINT YOUR FCC LICENSE

1. Go to https://wireless2.fcc.gov/UlsEntry/licManager/login.jsp

2. Enter your FCC Federal Registration Number (FRN) and Password
   a. If you do not know your FRN, go to Search box and click on License
      Click on Amateur; Enter your callsign in Callsign box;
      Your FRN is in center of page after your name
      (If you do not know your Password, click on Contact Tech Support after Forgot your Password)

3. In When My Licenses screen comes up, click on Now in the green line reading “Change your paper authorization preferences here, or download your official electronic authorizations now”

4. In Under Download Authorizations screen, highlight your callsign in the My Authorization area at the bottom left.

5. Click on ADD to right of the highlighted callsign.

6. Highlight your callsign in Authorization to Download and then click on Download on bottom right of screen.

7. If pop-ups are blocked, click on Allow One

8. Click Open at bottom and Print your License.
For a second month in a row the Delta Club has offered FCC Amateur Radio examinations. Our ARRL VE Liaison Jeff Krause AJ4GY held a session at 10am on Saturday October 10th on the first floor at Ellendale Church of Christ. Three took their tests and three passed. Congratulations to Phillip Mahnken WA2JXD for upgrading to Extra. Congratulations to Kent Brown KO4HOB for upgrading to General and Michael Payne KO4IID for earning his Technician and General licenses.

VE Test Session on October 10, 2020
Photo by Joe Lowenthal WA4OVO

Thanks to the VE team of Jeff AJ4GY, James KM4USQ, TJ W4BNT, Dan W4DTA and Joe WA4OVO.
ARRL amateur radio community. When renew, a few of the benefits you will enjoy are:

- Your choice of a print magazine. Eligible US-based ARRL members can elect to receive QST, the official membership journal of ARRL or On the Air, aimed at helping new and emerging radio communicators get active and on the air.

- Digital access to all four ARRL publications -- QST, On the Air, and now QEX, covering topics related to radio communications experimentation, and National Contest Journal (NCJ), covering radio contesting.

- Access to ARRL's Technical Information Service to assist with technical problems and help with your projects.

- Free FCC license renewal and modification service.

To secure these amazing members-only benefits and many more in the coming year, visit www.arrl.org/join/WE1 to renew or call us toll-free at: 1-888-277-5289 (US Only), Monday-Friday, 8 a.m. to 5 p.m. ET. International members call (860) 594-0338.

If you are interested in joining Shelby County ARES, complete an application at https://www.tnares.com. Click (do not pull down) on INFORMATION on the top right of the page. Next, go to TN ARES Membership and Appointment Application Forms and then click on ARES Membership Application: FSD-98. Complete the form and click SUBMIT at the bottom of the page. You should get an acknowledgment soon after submitting.
YL NET – Please join us each Saturday night at 8:45 p.m. on the 146.820 repeater for the YL Net. We enjoy hearing from you.

One of the small single board computers we use to build projects is the Arduino. This small computer is cheap and easy to work with. Making connections to the board uses pins located on the board. A useful accessory for this is the Arduino expansion board. These boards allow you mount your Arduino and make wiring connections for easier experimenting. These boards create additional wiring connections for each pin which helps in wiring. These expansion boards are available for the R3 Arduino boards and the Arduino Nano boards. Connections on these boards add additional pins. Some of these boards have screw type terminal strips to make the connections. Expansion Boards are also available with plug in sockets so you can try out different circuits easily. These are sold on Ebay with a price under five dollars. Do an Ebay search for “Arduino expansion board” to see what they have available.
Radio operation means you need your antenna to match your 50 ohm radio impedance. One new kit that is available for this is the TennaDipper II. This unit connects to your antenna and allows you to adjust the antenna for the frequency you want to operate on. The unit operates without a radio and generates no QRM on the band. This kit is offered by Pacific Antenna. It has an LED readout for frequency along with a tuned LED indicator. The unit runs on a nine volt battery which makes it portable. The kit cost is under fifty dollars and makes a nice addition for tuning antennas.

The website is [https://www.qrpkits.com/tennadipperII.html](https://www.qrpkits.com/tennadipperII.html)

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**Logbook Of The World (LOTW) User Guide**

If you are a new user or planning to use "Logbook of The World" (LoTW), Gary, ZL2IFB, has put together an easy step-by-step guide or should we say manual (about 33 pages with pictures) to help you use LoTW.

The PDF file is available for download at: [https://www.g4ifb.com/LoTW_New_User_Guide.pdf](https://www.g4ifb.com/LoTW_New_User_Guide.pdf)

73, W4WTN
The 1,000 foot (307m) Arecibo Dish in Puerto Rico, used for Amateur Radio Moonbounce (EME) communications and ionospheric experiments, is to be decommissioned

On Space News Jeff Foust @jeff_foust writes:
National Science Foundation announced Nov. 19 it will perform a “controlled decommissioning” of the giant radio telescope at the Arecibo Observatory in Puerto Rico, citing recent damage that made it unsafe to operate or even repair.

In a call with reporters, NSF officials said two broken cables used to support a 900-ton platform suspended over the telescope’s 305-meter main dish put the entire structure at risk of collapse. One cable slipped out of its socket in August, falling to the dish below and damaging it, while the second broke Nov. 6.

Both cables are attached to the same tower, one of three surrounding the main dish. “The engineers have advised us that the break of one more cable will result in an uncontrolled collapse of the structure,” said Ralph Gaume, director of the NSF’s Division of Astronomical Sciences, referring to cables attached to that same tower. That would result in the platform crashing down to the main dish and potentially toppling one or more of the towers.

The giant dish-shaped radio telescope was unlike any other: It sent messages to the stars, listened to the tick-tock of distant pulsars, helped keep Earth safe from asteroids, taught generations of students how to be astronomers, and so much more. This is a major loss.

To me, Dr. Tony Phillips, the loss is personal. I lived and worked at the observatory for more than 5 years in the 1990s while it was still operated by Cornell University. I ran around the dish thousands of times, logged hundreds of hours of observing time, climbed the cat walks and drove Jeeps across the jungle floor beneath the main antenna. The telescope's raw power attracted astronomers from around the world, including many Nobel Laureates; collaborating with them was a life-shaping experience. There may never be another telescope with the same mix of research chops and tropical personality. Good-bye, old friend.

Read the full Space News story at

Arecibo ionosphere HF radio modification campaign

73 W4WTN
There is a new System Fusion repeater in West Memphis. The frequency is 442.400 with a PL Tone of 107.2 for non System Fusion users.

Also, Marc says there is a Buy and Sell Facebook Group for the Memphis Metro Area. The link is:

www.facebook.com/groups/memphismetroareahamradioswapshop

73, Marc Gwin AG5QY

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The good news is that as of today RadioShack has officially been purchased by Retail Ecommerce Ventures (REV), giving the troubled company a new lease on life. The downside, at least for folks like us, is that there are no immediate plans to return the iconic electronics retailer to its brick-and-mortar roots.

As the name implies, REV specializes in online retail, having previously revamped the Internet presence of other bankrupt businesses such as Pier 1 Imports and Dressbarn.

While the press release doesn’t outright preclude the possibility of new physical RadioShack locations, it’s clear that REV believes the future of retail isn’t to be found in your local strip mall. As the US mulls further lockdowns in response to the continuing COVID-19 pandemic, it’s hard to disagree. There will be millions of bored kids and adults looking for something to do during the long winter nights, and an electronic kit or two shipped to their door might be just the thing.

Read the full story
FCC Headquarters has moved. The new address is 45 L St. NE, Washington, DC 20554. The change is effective immediately. The FCC announced plans to move last spring, but the transition was delayed by the COVID-19 pandemic.

The FCC, like many federal agencies, has its own zip code, so there will be no disruption in mail delivery sent by USPS to the former address. The FCC still prohibits the delivery of hand-carried documents, and all COVID-19 restrictions or instructions regarding access to FCC facilities remain in place at the new location.

“The FCC continues to balance its efforts to be accessible to the public with the need for heightened security and health and safety measures and encourages the use of the Commission’s Electronic Comment Filing System (ECFS) to facilitate the filing of applications and other documents when possible,” the FCC said in an October 15 Public Notice.

Due to the pandemic, the move was accomplished by professional movers without the presence of any employees, all of whom had been working from home. An attempt was made during the summer to let employees back into headquarters for a day to pack up their offices and remove personal belongings, but that plan had to be scrapped after several employees tested positive for COVID-19.

Most FCC staff continue to work from home and are not expected to be physically present in their new offices before next June.

In anticipation of the planned move, the FCC last spring also announced the adoption of a new FCC seal. The redesign is the product of an agency-wide contest that solicited proposals from employees and contractors. The revised design incorporates several elements: communications technologies; four stars on the outer seal border, drawing from the legacy of the predecessor Federal Radio Commission (FRC) seal, retaining the three-wire dipole supported by two towers; 18 stars on the shield, recognizing the current number of bureaus and offices; and the eagle and shield, identifying the FCC as a federal government agency.

Official use of the new seal was to begin following completion of the FCC’s move from The Portals to its new location on L Street NE.


73, W4WTN
ARRL has urged the FCC to waive its proposed $50 amateur radio application fee. The Commission proposal was made last month in a Notice of Proposed Rulemaking (NPRM) in MD 20-270. The proposal already has drawn more than 3,200 individual comments overwhelmingly opposed to the plan. The fees, directed by Congress and imposed on all FCC-regulated services, are to recover the FCC’s costs of handling and processing applications.

“Amateur radio applications were not listed when the Congress adopted its 1985 fee schedule for applications, and therefore amateur license applications were excluded from the collection of fees,” ARRL said on November 16 in its formal comments on the proposal. “Similarly, a decade later when regulatory fees were authorized, the Amateur Service was excluded, except for the costs associated with issuing vanity call signs.” The new statutory provisions are similar. Amateur radio license applications are not addressed in the application fees section and explicitly excluded from regulatory fees,” ARRL said, and there is “no evidence of any intent by Congress to change the exempt status of amateur applications and instead subject them to new fees.”

ARRL argued that the FCC has explicit authority to waive the fees if it would be in the public interest, and should do so for the Amateur Radio Service. Unlike other FCC services, the Amateur Radio Service is all volunteer and largely self-governing, with examination preparation, administration, and grading handled by volunteers, who submit licensing paperwork to the FCC, ARRL pointed out.

“Increasingly, the required information is uploaded to the Commission’s database, further freeing personnel from licensing paperwork as well as [from] day-to-day examination processes,” ARRL said. “The addition of an application fee will greatly increase the complexity and requirements for volunteer examiners.”

The Communications Act, ARRL noted, also permits the FCC to accept the volunteer services of individual radio amateurs and organizations in monitoring for rules violations. In 2019, ARRL and the FCC signed a memorandum of understanding to renew and enhance the ARRL’s Volunteer Monitor program, relieving the Commission of significant time-consuming aspects of enforcement.

These volunteer services lessen the regulatory burden — including the application burden — on the Commission’s resources and budget in ways that licensees in other services do not, ARRL said.
Amateur radio’s role in providing emergency and disaster communication, education, and other volunteer services also justifies exempting radio amateurs from FCC application fees. For example, ARRL noted, last year more than 31,000 participated as members of the ARRL Amateur Radio Emergency Service (ARES), and local ARES teams reported taking part in more than 37,000 events, donating nearly 573,000 volunteer hours, providing a total value of more than $14.5 million.

Amateur radio also has motivated many students to develop critical science, technology, engineering, and mathematics (STEM) skills. ARRL noted that the Amateur Radio Service contributes to the advancement of the radio art, advances skills in communication and technology, and expands the existing reservoir of trained operators, technicians, and electronics experts — all expressed bases and purposes of the Amateur Radio Service.

“Accomplishing these purposes entails working with young people, many of whom may have difficulty paying the proposed application fees of $50, $100, or $150,” ARRL said. “The $150 fee would be the cost of passing the examinations for the three amateur license levels in three examination sessions,” ARRL said. “Such multiple application fees to upgrade would dampen the incentive to study and demonstrate the greater proficiency needed to pass the examinations for the higher amateur classes.”

ARRL concluded that the FCC should exercise its authority to exempt amateur radio from application fees generally. If the FCC cannot see its way clear to waive fees for all amateur radio license applications, the fees should be waived for applicants age 26 years and younger. Such individuals, ARRL contended, have the most to contribute to the future of radio technology and other STEM-related activities and are the most likely to find the proposed application fees burdensome.


73,
W4WTN
Radio hams to put Santa on-the-air

The Times-Call reports the Longmont Amateur Radio Club is putting Santa on the airwaves to spark interest in amateur radio among the young.

**The newspaper says:**
The coronavirus has altered the way that communities are celebrating this year’s holidays, meaning Santa Claus may not be able to make his Christmas list through in-person visits. One Longmont club, though, is giving Kris Kringle some air time so that he can still hear from Boulder County’s children in a safe-distanced way.

The Longmont Amateur Radio Club will host On Air with Santa from 6 to 7 p.m. Dec. 1 to Dec. 5. The club is encouraging licensed ham radio operators to give their children and grandchildren a chance to connect with Santa in a safe, distanced way.

Firestone’s Chuck Poch K0ITP, president of the radio club, said this is the first time that the Longmont Amateur Radio Club has hosted the event. While the Longmont Amateur Radio Club wants to give children a chance to connect with Santa, members also hope to transmit an interest in the next generation of ham radio operators.

“The thought was, one: Get kids on the radio and get them to experience talking to Santa on the ham radio and maybe saying ‘I can talk to Santa on the radio. Cool, I want to learn more about it,’” Poch said.

Poch (Santa Claus) said it will also be a chance for parents to listen in and find out what their child wants for Christmas. “It’s a win-win,” he said.

Steve Haverstick KF0AGY, of Longmont, who serves as the publicity committee for the Longmont Amateur Radio Club, said he hopes that the first-time event sparks some interest.

“We are trying to get the younger folk involved,” Haverstick said. “There’s not much talk about ham radios anymore. Kids handle phones and computers and they’re good at that. We thought this is a way to get them to talk to Santa and get them comfortable and maybe get involved.”


73, W4WTN
US Representative Debbie Lesko of Arizona has introduced a resolution designating April 18, 2021, as National Amateur Radio Operators Day, to recognize the important contributions of amateur radio operators.

“Amateur radio operators are critical in times of crisis and our communities are safer thanks to their dedication to sharing important information with the public,” Lesko said. She was approached to introduce the resolution by 12-year-old Raymond, N7KCB, from Peoria, Arizona.

“I started Long Distance Responders so I can help prepare the community for emergencies with amateur radio,” said Raymond. “There might be a price for a radio, but the ability and knowledge to help someone is truly priceless.”

As Lesko’s resolution notes, World Amateur Radio Day (WARD) is celebrated annually on April 18 to commemorate the founding of the International Amateur Radio Union (IARU) in 1925, and she said her resolution recognizes the amateur radio community with a national day in the United States in 2021. The resolution cites the Amateur Radio Emergency Service (ARES®) for providing “invaluable emergency communications services following recent natural disasters, including but not limited to helping coordinate disaster relief efforts following Hurricanes Katrina, Wilma, and Maria and other extreme weather disasters.”


73,
W4WTN
How to install a PL259 on RG58 coax

In this video Ria Jairman N2RJ explains how to install a PL259 on RG58 coax and looks at Wifi connectors, SMA and TNC F connectors and why we use them in ham radio

Subscribe to learn more about ham radio and electronics! New videos 2-3x/week.

00:00 - Pre-intro
00:30 - Intro graphic
00:40 - Introduction and shout-outs
01:36 - Installing RG-58 on PL259
03:37 - Wifi antenna connectors and polarity
10:43 - F connector in ham radio
16:54 - Next topic preview
17:23 - End card

Watch Ham radio coaxial connectors - RG58, SMA, TNC, F

https://youtu.be/NcQezNfVHu4

73,
W4WTN
SPARKS is published monthly by the Delta Amateur Radio Club and emailed to club members. All information published in this newsletter is provided as a service. While every reasonable effort has been made to ensure accuracy, neither the Delta Amateur Radio Club nor its officers assume any liability resulting from errors or omissions. All correspondence may be mailed to:

**Delta Amateur Radio Club  *P.O. Box 342768 * Memphis, Tennessee 38184-2768**

Please note that you must provide your name and call sign if you’re requesting specific actions or personal follow-ups, and also be aware that any profane or mean-spirited comments will be unceremoniously discarded without consideration.

Delta Club Members Can Like Us/Follow Posts On Facebook! Go to [https://www.facebook.com/darcmem](https://www.facebook.com/darcmem).

### 2020 Board of Directors

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>President</strong></td>
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<td>901-522-6711</td>
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<tr>
<td><strong>Immediate Past President</strong></td>
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<td>901-487-9103</td>
</tr>
</tbody>
</table>
Swamp Stompers is scheduled for Saturday, January 16, 2021. More info next month.

Tennessee Amateur Radio License Plate
Submitted by Joe Lowenthal, WA4OVO

• As of October 2018, all you need to renew your ham tag is to provide a copy of your FCC license with a copy of your last year’s registration or a renewal notice, if you received one, and your payment.

The link below is for information and instructions about Tennessee ham radio call sign Emergency/Safety automobile license plates:

The application can be found at this link:
   https://www.tn.gov/content/dam/tn/revenue/documents/forms/tilereg/f1312601Fill-in.pdf

The following link from the Tennessee Department of Revenue https://www.tn.gov/revenue/title-and-registration/license-plates/available-license-plates/emergency-safety.html has the Amateur Radio auto tag information.
## Memphis Area VHF/UHF Nets

<table>
<thead>
<tr>
<th>Name of Net</th>
<th>Freq. MHz</th>
<th>Offset/Tone</th>
<th>Local Time</th>
<th>Day of Week</th>
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<tbody>
<tr>
<td>Delta Club Information Net</td>
<td>146.820</td>
<td>- (107.2)</td>
<td>8:00p</td>
<td>Daily</td>
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<tr>
<td>YL Net</td>
<td>146.820</td>
<td>- (107.2)</td>
<td>8:45p</td>
<td>Sat</td>
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<tr>
<td>Mid-South Bullfrog Net</td>
<td>146.535</td>
<td>[simplex]</td>
<td>7:30p</td>
<td>Daily</td>
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<td>145.210</td>
<td>- (107.2)</td>
<td>9:00p</td>
<td>Sun</td>
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<tr>
<td>MedMERS Net</td>
<td>146.820</td>
<td>- (107.2)</td>
<td>12:00p</td>
<td>Wed</td>
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<tr>
<td>ARES Training Net</td>
<td>146.850</td>
<td>- (107.2)</td>
<td>9:00p</td>
<td>Thu</td>
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<tr>
<td>Sunday Super Niner Net</td>
<td>927.6125</td>
<td>- (146.2)</td>
<td>8:30p</td>
<td>Sun</td>
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<tr>
<td>TN Statewide DMR Net</td>
<td>Digital – DMR</td>
<td></td>
<td>8:00 p</td>
<td>Friday</td>
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## TENNESSEE HF NETS

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<td>Tennessee CW Net</td>
<td>3.563</td>
<td>7:00p</td>
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<tr>
<td>Tennessee Slow CW Net</td>
<td>3.682</td>
<td>7:30p</td>
<td>Tue-Sun</td>
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<tr>
<td>Tennessee Alternate Phone Net</td>
<td>7.238</td>
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<td>As needed</td>
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<tr>
<td>CUSEC</td>
<td>3.810</td>
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<tr>
<td>CUSEC</td>
<td>7.180</td>
<td></td>
<td>As needed</td>
</tr>
</tbody>
</table>

(Center for United States Earthquake Consortium)

### 3980 kHz – Tennessee Phone Net

Mon-Fri - 5:40 AM, 6:45 AM & **5:30 PM** (5:30 pm beginning Nov. 9 evening)  
Saturday - 8:00 AM & 5:30 PM  
Sunday - 8:00 AM only  
Holidays - 8:00 AM only
If you would like to advertise equipment you have for sale, please email Bob. My email address is vawter.bob@gmail.com

1. Alinco VHF/UHF Twin Band DR 735 (new in the box)
2. Alinco EDS 30 (new in the box)
3. 2 Speakers Kit HSN4039 (new in the box)
4. Kenwood THK 20A 144 mhz FM Transceiver (new in the box)
5. Galaxy Blue Light Digital Frequency Counter (new in the box)
6. Kenwood Charger (new)

If anyone is interested, please email me lelnicholson@gmail.com or call me @ 901-413-6096 Lel Nicholson

If you have new members just starting out as Ham operators and could use some sections of Rohn Tower, I have some that I am willing to part with. They have been out of use for many years and at 79 years of age, I have no revival plans for them. Currently stored at ground level. Not too pretty but I do have the top cap.

Respond to Earl Barker, 5940 Bishop Dale Dr, Memphis, Tn 38141-6954

Contact via USPS only until further info is exchanged.

For Sale: Ringo Ranger VHF antenna. 6 db gain! Well used, but still works great. About 12 feet long. I have the complete antenna and I printed a set of instructions for set up and tuning.

$25 contact Bob Vawter KW4RJ at vawter.bob@gmail.com
DELTA CLUB ADVERTISEMENTS

DELTA AMATEUR RADIO CLUB
P.O. Box 342768
Memphis, TN 38134-2768

DARC Meeting: Second Tuesday of every month at Elerdale Church of Christ 7365 Hwy 70, Bartlett TN

WIDE REPEATER SYSTEM
146.82 - 1=7.36+ (137.2Hz tone)
224.42 - 4=3.30+ (137.2Hz tone)

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Joe Miller
Manager

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