

SPARKS

P.O. Box 342768 * Memphis, Tennessee 38134-2768 * Volume 54 * July 2020



Delta Amateur Radio Club (DARC) Sparks Newsletter

Website: <http://deltaclub.org>

Facebook: <https://www.facebook.com/darcmem>

W4BS

REPEATER SYSTEM

146.820 ^{-107.2}	* 147.360 ^{+107.2}
146.625 ^{-107.2}	443.200 ^{+107.2}
224.420 ^{-107.2}	443.700 ^{+107.2}
144.390 Digipeater	*Fusion

This month's meeting is CANCELLED because of the “stay at home” order. We do plan to meet via “ZOOM.”

<https://us02web.zoom.us/j/84740345236?pwd=cVk2MDQxNHR5VXhzR1ROakRBbjlMQT09>

Meeting ID: 847 4034 5236

Password: 269111

Program: **Field Day Follow-up and Continuing Contesting**

TESTING SESSIONS are also CANCELLED for June.

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

New and upgraded hams:

James Fletcher, General KO4BXY

Michelle Zapf, General KN4ACJ

Ryan McElfresh, Tech KO4DZM

Terry Simmons, Tech KI5JIF

President's Corner

Submitted by Steve Frazier, KK4VPT

The ARRL Field Day is an annual event that all amateur radio operators look forward to every year. Field Day gives us a chance to spend time with other hams and experience operating our equipment in different real-world situations. Field Day 2020 definitely gave us a chance to meet all these objectives and in unique ways. Due to the ongoing COVID-19 situation, we were at a new location with short advance planning and we had to include COVID-19 public guidelines into our planning. Due to the hard work of several of the Delta Club members, we had a total of 3 stations operating so that we could have digital, CW and voice options. I was pleased to see that we had several members come and visit during the day. We had several experienced members come by to provide support and advice. It was especially rewarding to see new members come and learn about HF operations. As we have said before, Field Day is a great opportunity for new hams to see different modes and different equipment being used. I was glad Delta Club provided that opportunity for them and that they stopped by to visit and to learn. Due to COVID-19 concerns, we were not able to give new hams the experience of actually getting on the air this year; but hopefully they understood and still benefited from what we were able to offer.

I was hoping we would all be able to meet in person for the July meeting, but with the recent increases in COVID-19 cases and resulting updated guidelines for public gatherings; we will need to meet again using Zoom. I have been excited to see 50 plus join the Zoom meetings that we have had in the past and look forward to having you join us again for the July Zoom Meeting. The information to join the July Zoom meeting is below and we plan to also send out an email with the information.

<https://us02web.zoom.us/j/84740345236?pwd=cVk2MDQxNHR5VXhzR1ROakRBbjlMQT09>

Meeting ID: 847 4034 5236

Password: 269111

While November and the election of Delta Club officers may seem far away during these hot summer days, the Board of Directors did discuss the election during the July Board of Directors meeting. If the COVID-19 social distancing requirements continue, the election this year will be a unique situation. We have had several members on the board for 2 or more years and they have indicated that they are ready give other members the chance to serve. While all positions are always open on the election ballot, the following positions will need to be filled for 2021 - President, Treasurer, Secretary, Director of Publications. If you are interested in any of these positions or would like to nominate someone, please contact me or another member of the Board of Directors.

During these days when we are not able to meet in person, please continue to keep in touch using the nightly net at 8pm on the 146.82 repeater.

73
Steve Frazier
KK4VPT

Treasurer's Report
Submitted by David Jackson KM4SEC

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/58124ffd-d6ca-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. [**davidjkson@bellsouth.net**](mailto:davidjkson@bellsouth.net)

If you prefer you can print the form and bring the completed form, along with the membership fee to any meeting.

The Delta Amateur Radio Club's annual request to the State of Tennessee for Exemption under The Charitable Solicitation Act has been filed and granted with Tennessee's Secretary of State. H. David Jackson, treasurer

LIFEGREEN CHECKING FOR BUSINESS

May 30, 2020 through June 30, 2020

SUMMARY

Beginning Balance	\$25,015.58	Minimum Daily Balance	\$25,035
Deposits & Credits	\$175.00 +	Average Monthly Statement Balance	\$25,088
Withdrawals	\$0.00 -		
Fees	\$0.00 -		
Automatic Transfers	\$0.00 +		
Checks	\$80.00 -		
Ending Balance	\$25,110.58		

DEPOSITS & CREDITS

06/01	Deposit - Thank You	20.00
06/08	Deposit - Thank You	15.00
06/09	Deposit - Thank You	100.00
06/11	Deposit - Thank You	40.00
Total Deposits & Credits		\$175.00

CHECKS

Date	Check No.	Amount
06/11	1536	80.00

DAILY BALANCE SUMMARY

Date	Balance	Date	Balance	Date	Balance
06/01	25,035.58	06/09	25,150.58	06/11	25,110.58
06/08	25,050.58				

DELTA AMATEUR RADIO CLUB

SMALL BUSINESS CD *0028

Available Balance	<u>INTEREST RATE</u>	<u>YTD INTEREST</u>	<u>INTEREST EARNED NOT PAID</u>
\$10,572.26	1.590 %	\$83.73	\$5.97

Activity

DARC Board of Directors Meeting Minutes
Submitted by Mary Jean Hall KN4FBL

DARC Board of Directors Meeting Minutes for July 7, 2020

Attendees: Steve Frazier KK4VPT, Bob Van Keuren KM4SEB (via phone), Mary Jean Hall KNFFBL, David Jackson KM4SEC, Joe Lowenthal WA4OVO, Ian Lucas KN4OEK, Scott Adams KM4PMU, Barry McDonald W5CJ and Len Grice W4MKS.

Absent: Bob Vawter KW4RJ

The regular monthly meeting of the Delta Amateur Radio Club Board of Directors was held on Tuesday, July 7, 2020 at 6:30 p.m. on a Zoom video conference call, with the President serving as chair and the Secretary being 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.

The board voted to go into executive session to discuss a personal concern. The executive session began at 6:35 p.m. and ended at 6:44 p.m.

David Jackson read the Treasurer's Report.

Steve Frazier asked the board about renewing the certificate of deposit. The board members discussed it and decided to keep the money in the Delta Club checking account.

The board discussed options for a July meeting program, since the meeting will be held online via Zoom.

After brief discussion, the board decided make note of the online Zoom meeting attendees for the end-of-year drawing (in case the November/December meetings are able to be held in person). Mary Jean Hall will work on compiling the names for credit.

Joe Lowenthal updated the board on the status of the current Technician class.

Steve Frazier updated the board on the abbreviated Field Day activity, which was held at the church June 27, 2020. He said that some individuals had stopped by to participate.

Steve Frazier asked the board members to think about whether or not they planned to run again for the 2021 year. He also asked the board to consider the current COVID-19 Pandemic and

how the Board of Directors nomination and election process will occur. The members will research it and plan to discuss it at the next board meeting.

Mary Jean Hall moved to accept the Treasurer's Report. Ian Lucas seconded the motion. The motion unanimously passed.

Without objection, Steve F. adjourned the meeting at 7:19 p.m. The next Board of Directors meeting is scheduled for Tuesday, August 4, 2020 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

Minutes of Last Month's Club Meeting
Submitted by Mary Jean Hall KN4FBL

DARC Meeting Minutes for June 9, 2020

Call to Order and Opening Remarks

The regular monthly meeting of the Delta Amateur Radio Club was held on Tuesday, June 9, 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 61 members and guests were present for the meeting.

Minutes and Treasurer's Report

Joe Lowenthal WA4OVO moved to "approve the Treasurer's Report and previous meeting's minutes as published in Sparks." Richard Martin K4DXF seconded the motion. The motion was unanimously adopted by the club.

Announcements

Joe Lowenthal WA4OVO said that six students have signed up for the upcoming Technician class, which is scheduled from June 25 through August 13, with the exception of July 13 and August 6. The class will run for six Thursday nights from 6:15 – 9:30 p.m., and it will be a combination of Zoom and in-person classes.

Joe Lowenthal WA4OVO said that the ARRL is currently offering a lifetime membership discount for those over 70-years-old where the prepayment of dues will credit toward a life membership.

Steve Frazier KK4VPT announced that the Huntsville Hamfest has been cancelled for 2020 due to COVID-19.

Barry McDonald W5CJ updated the members on the status of the 146.820 repeater. The repeater kept drifting out, so he replaced the cans. Everything seems to be in working order now.

Steve Kellett KF4SJU, the West Tennessee Assistant Section Emergency Coordinator for TNARES, updated the club on the Red Cross Drill that occurred two weeks ago. He said that Fayette County participated and had to send the forms in to Chattanooga. It was a good opportunity to test the communication system.

Steve Kellett KF4SJU said that they are still learning about ARES Connect, but now the calendar is full of events across the state. Most of the current events are nets, so he hopes to work with nearby counties to coordinate a drill for the local area.

Steve Frazier KK4VPT asked the club members for program topics. He said that he hopes the club can meet in person in July, but that decision will not be made until closer to time.

Discussion / Program

Steve Frazier KK4VPT announced that, unless something changes, there will be a smaller Field Day event at the Ellendale Church of Christ. While Field Day will still run from 1 p.m. Saturday, June 27 through 1 p.m. Sunday, June 28, the club will only meet on Saturday for an abbreviated participation opportunity. They expect to be “on air” at the church from 1 p.m. to 8 p.m. Saturday.

There should be three stations available for members and guests to participate and/or watch. Pat Lane W4OQG will run a CW station and John Reiners will run a digital station with a solar setup. Joe Lowenthal WA4OVO encouraged everyone, especially new hams, to attend and learn about HF.

Steve Frazier KK4VPT discussed the updated ARRL Field Day rules, which provide more flexibility for those social distancing and operating from their home stations. The club members discussed the recently announced exceptions to the Field Day rules. One exception includes allowing members to get credit for their clubs while operating at their home stations.

To ensure everyone was on the same page, the members decided to use the club name “Delta Amateur Radio Club Memphis” when submitting contacts into the N3FJP logging program. Members should still use their call sign when making contacts. Anyone at the church will use the W4BS call sign.

Closing Remarks

The meeting adjourned at 8:06 p.m.

The next Delta Amateur Radio Club meeting will be Tuesday, July 14, 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. Check the current edition of Sparks or the Delta Amateur Radio Club Facebook page just before the scheduled meeting time for more information on where/how the meeting will be held.

Respectfully submitted by Mary Jean Hall KN4FBL, Secretary

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

11 Technician

3 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 Eighth Edition with question pool that became effective July 1, 2015 for four years.

The current ARRL Extra Class License Manual is the Eleventh Edition with question pool that became effective July 1, 2016 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**

The next General class will probably start in early November.
The next Amateur Extra class will probably start in early January.

CURRENT CLASSES

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

Tech Class 3-20 is being held starting June 25th on six Thursday nights from 6:15-9:30pm on a combination of Zoom online and planned in person classes. There are eleven 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 will continue thru the July 9th class. Hopefully we will be able to have the in person classes at the Memphis Police Department Appling Farms , 6850 Appling Farms Parkway start on the July 23rd class.

SCHEDULED CLASSES

None

COMPLETED CLASSES

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 weekdays. 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 – February 22 – April 4, 2020

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. 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 – January 4 – February 15, 2020

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.



CBU Introduction to Unmanned Aerial Systems Tech Class with professor Dr. Welch WD4FTA on left and instructor Joe Lowenthal WA4OVO on right.
Photo by Eric Welch
WD4FTA

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.



Perry Hayes N4GJ introducing the aura of digital modes. Photo by Joe Lowenthal WA4OVO



General Class 4-19 ARRL FCC Test Session
Photo by Joe Lowenthal WA4OVO

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 KN4ZNI, 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 KN4WGX, David Cary KN4WGY, Jim Dollar KN4WGZ, 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-2000 HF SSB setup with a long wire and talked about MARS.



Tech Class 3-19

Photo by Joe Lowenthal
WA4OVO

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.
9. Print your License.

HQ 101

Submitted by Ham Hilliard W4GMM

HQ 101 is for new hams, old hams, and hams that want to know more about their hobby. This class is for you and I need to know what you want to learn about, so if you have a subject you are curious about let me know and if there is enough interest I will offer it one month. Email me at w4gmm@bellsouth.net.

Ham 101 is on hold due to COVID-19. We will resume when the club resumes their meeting. If you would like to have something covered then e-mail me at w4gmm@bellsouth.net.

ARMED FORCES DAY 2020

Joint services have postponed the Crossband test until Fall due to Covid-19.

FALL, 2020 is the date of this years Armed Forces Day Cross-band Communication Test. Due to the current restrictions I have not been able to recruit operators. WE will operate at NSA Mid-South at the MARS building N-100. We will operate from 1200z Saturday until 0100z Sunday. 6am till 8pm local time.

This would be a great time for those that are interested in HF but don't have the room or equipment to get some on airtime. We will be operating two stations most of the day. If you can come for just an hour or two, we would welcome the help. We will be joining with other stations operating from military locations. This is an important test as it gives the military knowledge that in an emergency it can enlist the help of Ham Radio operators across the country. It is not a contest except for bragging rights among the military stations. Anyone interested may contact W4GMM at w4gmm@bellsouth.net.

YL News
submitted by Linda KJ4CTX

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.

Amateur Hardware Update
Submitted by James Butler, KB4LJV

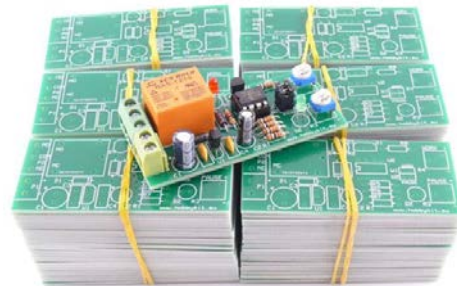
Many times, in the field we want test equipment to keep our equipment going. Since we normally use 12 VDC a voltmeter makes a nice tool to have. Using a cheap LED voltmeter that is self-powered and requires no batteries means you can put this in your go bag for years and be ready to go when needed. The voltmeter is also very cheap at under \$1.00 on eBay. I taped my LED voltmeter to a plastic rod and added wires to make connectors for testing. Make sure to get the two-wire version so it will be self-powered by the voltage you are testing. You can even pick the color of the display you want. I selected a yellow one for this project. With no battery to worry about and a cheap price you can build these and put them in every vehicle to use when needed. Go to eBay and do a search for LED voltmeter.



James Butler
KB4LJV

Amateur Packet Update
Submitted by James Butler, KB4LJV

Many times when we build up our own circuits we use universal perforated boards with holes for component wires to run through and make our connections between components. Manufacturers do this by developing a PC board just for that circuit and mass produce them. The setup cost and cost per board in low quantities has kept most home project development on universal perforated boards for years. Now there are companies on the internet that allow you to make your own custom PC boards in low quantities at a low cost. Companies like PCBGOGO and JLCPCB offer home hobbyist a way to make their own custom printed circuit boards. Some even have free software for PC board development. Design your board on your computer and upload the file to get the process started. Some internet sites to look at are <https://jlcpcb.com/> and <https://www.pcbgogo.com/>



James Butler
KB4LJV

Antenna and Coax DO matter!

The antenna and coax you use matter

During the week I climbed on my roof and installed a base antenna for the 2m and 70cm band. The antenna is a Diamond X-300N. It's 3 meters tall, has a gain of 6.5 dB on 2m and 9 dB on 70cm. I've owned it for just under eight years and this week I finally took it out of the box and installed it.

I know, I know, in my defense, you shouldn't rush these things.

Truth is, until this week I really didn't have a realistic way of installing it. Several factors needed to come together. Some of them trivial, others less so. In the end, the antenna is now installed on my roof, connected via coax through my roof to my radio.

Now before we get all excited about what that means, let's compare my previous outdoor setting to the current one.

Today I'm using LMR-400 coax, 30 meters of it. Previously I used RG-58, but only 20 meters of it.

From a coax perspective, even though I increased the length by 30%, my loss actually went down, on 70cm it went down by over 4 dB. If you recall, 3 dB loss is the same as losing half your signal, so before my 5 Watts even got to the antenna, I'd already lost more than half of it using RG-58.

I will mention right now that the numbers I'm giving here are purposefully not exact. There's no point. Your situation and mine are not the same, and my two installations are barely equivalent, so actual numbers don't help you.

The point I'm making is that the type of coax you use to feed your antenna can make a massive difference. In my case that difference means that half of my 5 Watts never even made it to the antenna.

In addition to this the two antennas are different. Not by much, but enough to make a difference. As icing on the cake the new antenna is longer by a third, so my new antenna has a better horizon, it's higher off the ground, even if it's installed at a similar height.

You might recall that loss and gain are dependent on frequency, so any calculation needs to be done for each band you're going to use. In my case I had to do this twice, once for the 2m band and once for the 70cm band.

I should also mention that depending on the SWR of your antenna, the losses also change, but let's not go there today.

If you want to actually figure out what this means for your station, the calculation goes a little like this.

Take the power output from your radio, subtract the coax loss and add the antenna gain. The end result is a number that represents the gain - or loss - from the entire system. If coax loss and antenna gain are the same, you're not losing anything, but you're also not gaining anything.

The reward for the aches and pains from climbing on and in my roof are represented by the fact that now my 5-Watt signal on 2m effectively became 10 Watts. On 70cm it became 13 Watts.

With the added height and gain in addition to being able to hit all the local repeaters, I can now hear the local beacon and I've successfully decoded the JT4 and JT65 messages that the beacon spits out.

It's only been a week, but it's already made a massive difference.

No doubt my on-air experience will also benefit from this adventure.

Unfortunately, to do this for yourself is not quite as simple as giving you a link and punching in the numbers. I won't make any promises I cannot keep, but I am looking into it.

I'm Onno VK6FLAB

CAMSAT satellite launched

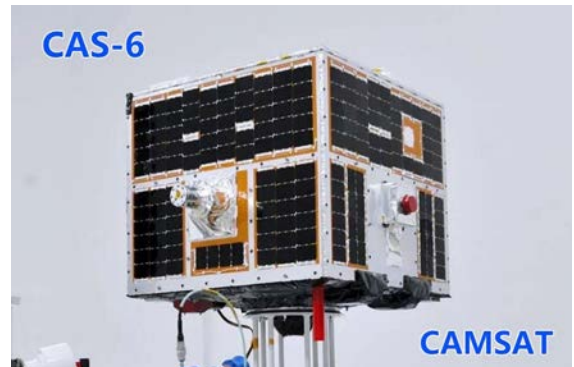
CAS-6 antenna deployed; transponder activated

The CAMSAT CAS-6 satellite was launched December 20, 2019.

Alan Kung BA1DU reports the V/UHF antenna was deployed on Saturday, June 20, and the linear transponder activated

Due to some OBC failures, CW beacon and GMSK telemetry are not working properly.

At present, only the carriers are transmitted on the two frequencies, the linear transponder has been put into operation. We will then try to diagnose and then determine whether the CW and telemetry data stream transmission can be recovered.



Frequencies:

- CW Telemetry Beacon: 145.910 MHz
- AX.25 4.8kbps GMSK Telemetry: 145.890 MHz
- U/V Linear Transponder Downlink: 145.925 MHz, 20 kHz bandwidth, Inverted
- U/V Linear Transponder Uplink: 435.280 MHz

TLE:

CAS-6(2019-093C)

1 44881U 19093C 20170.81187924 -.00001118 00000-0 -13581-3 0 9991

2 44881 97.9575 246.8556 0015830 36.2280 323.9959 14.81412013 26893

73!

Alan Kung, BA1DU

Further information on the 35 kg micro-satellite is at <https://amsat-uk.org/2019/12/19/camsat-cas-6-satellite/>

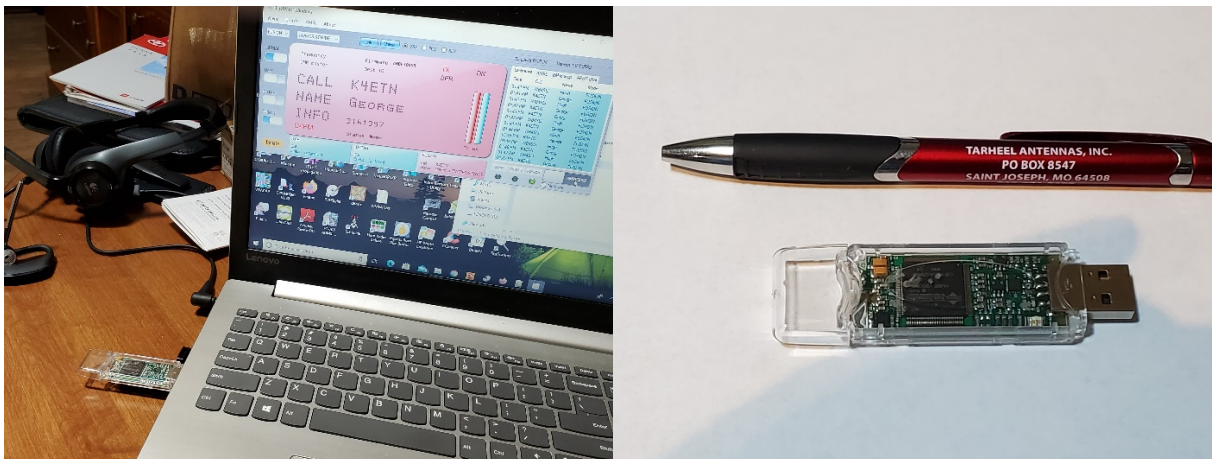
Digital Voice options

Other ways to start with Digital Voice

By: Hugh Wardlaw, WB4SLI

I recently bought an item that would be of use to those of us who might be interested in entering the world of Digital Voice (DV). It is called a DVStick 30. This is a USB dongle that, when connected to a Windows 10, Android, or Linux computer provides the capability to communicate via the internet employing either Digital Mobile Radio (DMR), D-Star, or Yaesu System Fusion (C4FM). If you wanted these capabilities, you would have to purchase a transceiver for each mode that can run from \$100 to almost \$400. The DVStick costs about \$130. For the price of an inexpensive DV transceiver you can dabble in the different modes to see which ones you may want to pursue with a transceiver.

If my late father was alive today, he would have enjoyed something like this when he was in a retirement home where an HT may not reach out too well. He would still be able to talk to others around the world via the internet.



The pictures above are of the DVStick in operation and a shot of the device itself with a ballpoint pen for the idea of its size. I use BlueDV software by PA7LIM to put the device through its paces. If you can enlarge the picture on the left, you can see that I was operating C4fm or Fusion with K4ETN. PA7LIM has a free program for the Android that allows the user to operate DMR on a limited basis. It is called Peanut. You will have to register with DMR to get an ID. The DMR ID will then be used to have PA7LIM provide the means to configure Peanut for use. I usually hang out on XRF334B which is the Alabama Link. XRF334B has a fair amount of traffic. It is accessible via DMR, D-Star, and C4FM. Both ways, DVStick 30 and Peanut are a way to get one's feet wet with Digital Voice without having to buy a transceiver first.

I did use the DVStick to work GB3COL and WM3PEN on Reflector 063 Bravo during 13 Colonies on The Air. Some purists will say that's not the same thing as catching them on HF. With the poor propagation that we have had on HF, I still could not work DX anyway. There is

nothing quite like bounding down the highway with the DV HotSpot tethered to the cell phone and working New Zealand with and HT when I am doing well to work W6 or KH6 land. There are several of us who are knowledgeable in the ways of DV and will be glad to Elmer or just help you get started. Feel free to catch me on the air and I will be glad to work with you on getting on DV. I usually check into the 8 pm .82 net.

Maritime Mobile Service Net (MMSN) on 14.300 MHz

Maritime Mobile Service Network Comes to the Aid of Vessel in Distress

The Maritime Mobile Service Net (MMSN) on 14.300 MHz came to the assistance of a sailing vessel on June 25. MMSN control operator Steven Carpenter, K9UA, took a call on 20 meters from Ian Cummings, KB4SG, the skipper of the Mystic Lady, then some 40 miles east of Florida. Cummings reported that his engine had failed as he was attempting to return to his home port of Stuart, Florida. He not only had insufficient wind, but a strong current was carrying the vessel out to sea.

Cummings had been unable to reach any station via his VHF marine radio, since he was too far from the coast. Assisting in the call was Robert Wynhoff, K5HUT, also an MMSN net control operator. Cummings said his vessel, with one passenger on board, was drifting northwest toward the South Carolina coast.

“A major concern was that the vessel was heading directly towards a lee shore,” the MMSN reported. “Lee shores are shallow, dangerous areas which are a hazard to watercraft. Vessels could be pushed into the shallow area by the wind, possibly running aground and breaking up.”

Carpenter contacted Cummings’ family, who had already called the Sea Tow marine towing service. Sea Tow advised Carpenter to tell the captain to head closer to shore by sailing west, if possible. Carpenter told Cummings that if he was unable to get nearer to shore, he would notify the US Coast Guard, which was already monitoring the situation.

As the MMSN reported, “The Mystic Lady was able to make some headway, but it was very slow. Members of the MMSN made additional calls via landline to the captain’s family as to the ongoing status of those on board. The family was concerned but relieved that communication was established and that all were well.”

Several hours later, the captain advised that the wind had picked up, allowing him to head close enough to shore for Sea Tow to reach the vessel and take it back to port.

The Pacific Seafarers’ Net, which monitors 14.300 MHz from the West Coast after the MMSN secures at 0200 UTC, kept in touch with the Mystic Lady into the night while it was under tow.

The tired, grateful captain later messaged the net, “A million thanks to everyone last night who helped rescue us on 14.300. Everyone chipped in as we drifted north in the Gulf Stream 60

miles headed to a lee shore. The MMSN net control and several others stayed with us for hours, phoned people, and were immensely helpful. The situation on board was dangerous. We are now safely under tow home. You folks are amazing!”

In operation since 1968, the MMSN monitors 14.300 MHz 70 hours a week to assist vessels and others in need of assistance. — Thanks to MMSN Net Manager Jeff Savasta, KB4JKL

<http://www.arrl.org/news/maritime-mobile-service-network-comes-to-the-aid-of-vessel-in-distress>

73,
W4WTN

Rescued Radio Amateur Says, “Ham Radio Saved My Life”

ARRL member Alden Sumner Jones IV, KC1JWR, of Bennington, Vermont, is thankful for amateur radio, after he suffered a medical incident and lost consciousness on June 15 while hiking with others along a remote section of the Long Trail, not far from his home. An EMT from Appalachian Mountain Rescue (AMR), who was hiking nearby, saw Jones pass out but was unable to connect with 911 via his cell phone. Jones, 41, regained consciousness and was successful in contacting Ron Wonderlick, AG1W, via the Northern Berkshire Amateur Radio Club’s K1FFK repeater on Mount Greylock, and Wonderlick initiated what turned into an 8-hour effort to get Jones off the trail and to a medical facility, acting as a relay among Jones, emergency crews, and other agencies involved. As the Bennington Post reported, “The Vermont State Police also received assistance from several licensed amateur radio operators who helped facilitate communications, greatly assisting in the rescue.”

Matthew Sacco, KC1JPU, headed to a staging area where rescue crews were gathering. When he could not make it into the repeater, he employed some ham radio ingenuity to fashion a J-pole antenna from some window line he had on hand, casting it into a tree using a fishing pole. That did the trick. An individual on site was able to obtain an accurate location for Jones using the GPS on his cell phone.

After it was determined that rescuers could not reach Jones using an all-terrain vehicle, arrangements were made to have a search-and-rescue crew from New York retrieve Jones by helicopter. Amateur radio participants were able to relay critical information, including an accurate location, as preparations continued.

Jones, meanwhile, took advantage of his time with the EMT and other rescuers to talk up amateur radio and explaining how to get licensed. According to one account, rescuers were having trouble making contact with the helicopter, so Jones loaned them a better antenna he happened to have.

Jones was eventually flown to a hospital in Albany, New York, again taking advantage of the occasion to promote amateur radio to the helicopter pilot and crew. Jones is said to be recovering.

“Ham radio saved my life last night, and I am very thankful for how everyone helped me,” Jones said afterward.

<http://www.arrl.org/news/rescued-radio-amateur-says-ham-radio-saved-my-life>

73, W4WTN

Time Zone Facts and History

At exactly noon on the 18th of November 1883, American and Canadian railroads began using four continental time zones to end the confusion of dealing with thousands of local times. The bold move was emblematic of the power shared by the railroad companies.

The need for continental time zones stemmed directly from the problems of moving passengers and freight over the thousands of miles of rail line that covered North America by the 1880s. Since human beings had first begun keeping track of time, they set their clocks to the local movement of the sun. Even as late as the 1880s, most towns in the U.S. had their own local time, generally based on “high noon,” or the time when the sun was at its highest point in the sky. As railroads began to shrink the travel time between cities from days or months to mere hours, however, these local times became a scheduling nightmare. Railroad timetables in major cities listed dozens of different arrival and departure times for the same train, each linked to a different local time zone.

Efficient rail transportation demanded a more uniform time-keeping system. Rather than turning to the federal governments of the United States and Canada to create a North American system of time zones, the powerful railroad companies took it upon themselves to create a new time code system. The companies agreed to divide the continent into four time zones; the dividing lines adopted were very close to the ones we still use today.

Most Americans and Canadians quickly embraced their new time zones, since railroads were often their lifeblood and main link with the rest of the world. However, it was not until 1918 that Congress officially adopted the railroad time zones and put them under the supervision of the Interstate Commerce Commission.

<https://www.history.com/this-day-in-history/railroads-create-the-first-time-zones>

73,
W4WTN

Sparks Newsletter and Delta Club Information

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>.

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ARES
Amateur Radio Emergency Service
Emergency Coordinator (EC) - John Reiners KN4BVH

If you are interested in joining Shelby County ARES, complete an application at www.tnares.com. Click (do not pull down) on INFORMATION on the top right of the page. Then, go to TN ARES Membership and Appointment Application Forms and then click on ARES Membership Application: FSD-98. Complete the form and click on Submit at the bottom. You should get an acknowledgement soon after submitting.

Public Service Events

If you are a coordinator for any of these events, please review the listed information. Please email corrections or additions to vawter.bob@gmail.com.

2020 Date	Event	Contact Information
Jan. 18	Swamp Stompers 50K/25K Run	Ken Laseter KI4AOH
May 12	MARS contacts POSTPONED UNTIL THE FALL	
June 27-28	Field Day @ Ellendale Church of Christ	
Sep 12-13	MS-150 Bike Ride	Darrell Sheffield KK4D
Oct 10	Bluff City Blues Bike Ride	Ken Laseter KI4AOH

Hamfests in the Southeast Area

2020

January 24-25	Capitol City Hamfest in Jackson, MS
February 7-9	HamCation 2019 in Orlando, FL
February 16	LCARC's 2020 Winterfest in Hoxie, AR
March 6 - 7	BirmingHamfest 2019 in Birmingham, AL
March 14	MTARS Hamfest Tullahoma, TN
March 28	Ides of March Hamfest in Union City, TN - CANCELLED
March 28 - 29	April Fool Hamfest in Corinth, MS- CANCELLED
April 11	Memphis FreeFest in Bartlett, TN - CANCELLED
May 15 - 17	Hamvention in Xenia, OH - CANCELLED
July 25	Greater Nashville & Middle TN HamQuest – CANCELLED
August 22 - 23	Huntsville Hamfest in Huntsville, AL – CANCELLED
October 16 - 17	Hamfest Chattanooga in Chattanooga, TN

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:

<https://www.tn.gov/revenue/title-and-registration/license-plates/available-license-plates/emergency-safety.html>

The application can be found at this link:

<https://www.tn.gov/content/dam/tn/revenue/documents/forms/titlereg/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

Updated January, 2018

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

TENNESSEE HF NETS

As of January 2019
All times are Central Time

Net Name	Freq. MHz	Local Time	Day of Week
Tennessee CW Net	3.563	7:00p	Daily
Tennessee Slow CW Net	3.682	7:30p	Tue-Sun
Tennessee Alternate Phone Net	7.238		As needed
CUSEC	3.810		As needed
CUSEC (Center for United States Earthquake Consortium)	7.180		As needed

3980 kHz – Tennessee Phone Net

Mon-Fri - 5:40 AM, 6:45 AM & 6:30 PM

Saturday - 8:00 AM & 6:30 PM

Sunday - 8:00 AM only

Holidays - 8:00 AM only

Used equipment for sale

Please ONLY contact the person offering the equipment.

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

DELTA CLUB ADVERTISEMENTS

DELTA AMATEUR RADIO CLUB

P.O. Box 342768

Memphis, TN 38134-2768

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



W4BS REPEATER SYSTEM
146.82- 147.36+ (107.2Hz tone)
224.42- 443.20+ (107.2Hz tone)



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