

SPARKS

P.O. Box 342768 * Memphis, Tennessee 38134-2768 * Volume 81 * October 2022



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 will be **IN PERSON** at 7 pm on Tuesday, October 11, 2022 at the Ellendale Church of Christ, 7365 Highway 70 in Bartlett, TN (1 ½ miles north of Highway 64 / Stage Road). NOTE: the air conditioning system in the Fellowship Hall has been fixed!

The meeting will also be on "Zoom." We encourage everyone to try to come to the in-person meeting since there will be several important discussion items on the agenda. The Zoom link is listed below.

Program: "Intro to Amateur Radio Contesting" by Anthony Luscre K8ZT (pre-recorded and available on YouTube).

Join Zoom Meeting

<https://us02web.zoom.us/j/88354601388?pwd=VlINQ292VGU3Q01IZGI1TFZlXN0Y0dz09>

Meeting ID: 883 5460 1388

Passcode: 041257

One tap mobile

+13017158592,,88354601388#,,, *041257# US (Washington DC)

+13126266799,,88354601388#,,, *041257# US (Chicago)

There will be FCC Testing Tuesday night.

VE TESTING: Don't forget the monthly ARRL Volunteer Examiner testing session prior to in-person meetings. Registration begins at 5:30 PM and testing begins by 6:00 PM. Please remember to bring two (2) forms of identification, at least one a photo ID, and copies of any existing licenses or CSCE's you might have. Please be on time for registration, as you will not be allowed to enter the testing session after 6:00 PM. This is to allow our volunteer VE team to finish in time to attend the club meeting. Candidates MUST have an FCC Federal Registration Number (FRN) BEFORE coming to the testing session. For more VE testing, or FCC FRN information, please contact:

Bob Vawter, KW4RJ, VE Liaison
Phone: 901-438-4563
Email: KW4RJ@ARRL.net

Announcements

November Member Meeting Date Change: Meeting Will be Tuesday, Nov. 15

****IMPORTANT:** Delta Club WILL NOT MEET on Tuesday, November 8, 2022, which is the second Tuesday of the month! The second Tuesday of the month falls on Election Day. Since the Ellendale Church of Christ serves as an Election Day Polling Location, we will not be able to hold our meeting there.

The Board of Directors discussed several options, including meeting at another location that night or even going with Zoom-only. Since Election Day activities could also impact attendance and we want to encourage in-person attendance, we decided to move the meeting to the third Tuesday of the month in November only. The meeting will be at the Ellendale Church of Christ, 7365 Highway 70 in Bartlett, TN.

YL Net

After a break, the YL Net will re-start this Saturday, October 15, 2022! The YL Net is every Saturday at 8:45 pm on the 146.820 frequency, which has a PL tone of 107.2 Hz. We encourage all YLs to check in with us on the YL Net!

2023 Board of Directors Needed

The 2023 Delta Club Nominating Committee has been formed and it consists of John Reiners KN4BVH (kn4bvh@comcast.net) as Chairman, Perry Hayes N4GJ (N4GJ@att.net), and Carrie Blackwell KN4LCU (cecblackwell@gmail.com). We are looking for anyone willing to serve a year on the 2023 Board of Directors! The member must have attended at least six meetings since last November. The Nominating Committee will nominate a slate of nominees during the

member meeting on Tuesday, October 11. The 2023 Board of Directors Election will be held during the member meeting on Tuesday, November 8. Nominations can also be made “on the floor” during the November meeting, too. Technically every position on the board is open for nominations. Many of the current members have expressed interest in staying on another year, but there is definitely a need for a Secretary and Director of Programs in 2023. Contact any of the nominating committee members as soon as possible if you have any interest in or questions about serving on the board.

Club Polo Shirt Order

We will submit another Delta Club polo shirt order within the next few months. More details, including pricing, will be announced during the October Membership Meeting. After the October meeting, if you would like to order an embroidered polo shirt, email Mary Jean Hall KY4FB at ky4fb.tn@gmail.com or call at 901-356-1475.

President's Corner

Submitted by Mary Jean Hall, KY4FB

We are shifting Delta Club meetings from hybrid to in-person. For now, we will still offer a Zoom link. Zoom meetings kept us connected during a time when we were apart, but we have reached a point where we need to decide where to focus our efforts. While many of us on the Board of Directors would love to accommodate both in-person and Zoom attendees, it takes a lot more time and energy to hold hybrid meetings. If you are adamant about keeping a hybrid option, volunteer to handle the setup to continue hybrid meetings. While our current setup has helped with the transition to in-person, we frequently have issues on the Zoom-side, and this impacts the entire meeting.

In-person meetings foster an environment that encourages camaraderie and growth. As a new ham, I recall using the breaks to talk to experienced hams about CW, electronics and other radio skills and events. I remember bringing my handheld radio to a meeting to get help “straightening it out” after I tried to program it for the first time, too. Who hasn’t done that, right? We would like to encourage that same environment for our new members now!

Nominations for the 2023 Delta Club Board of Directors will be made Tuesday. We STILL need someone who can serve as the Director of Programs for the rest of 2022 and in 2023. This can be as involved (or not) as you would like it to be. He/she would line up the program ideas each month and introduce the speaker. You do not have to lead the program unless you want to!

We are ALL busy and we all “have something going on.” Delta Club (and the ham radio community) NEEDS more volunteers to help with activities and people willing to serve in leadership roles. The ones in the trenches are spread thin. I’ve lost track of how many ideas we’ve had shared with us that we would love to act on, but we simply do not have the manpower. We could offer a lot more for our membership, but we cannot do it alone. Even if you cannot serve as a board member, consider coordinating a special event like a swap meet or staying after a meeting or event for just 10-15 minutes to help clean up. If your health prevents you from attending an event, consider sending in an article about something interesting for SPARKS or helping in other ways. It doesn’t matter if you are new to ham radio or have been licensed for years. Please consider stepping up to help so we can continue to improve our ham radio community and foster an environment that promotes learning and camaraderie.

Please be sure to read through the announcements in SPARKS, check in to the Delta Club Nightly Information Net and attend meetings to stay up-to-date on all that is happening. I look forward to seeing you all Tuesday!

73,
Mary Jean KY4FB

Treasurer's Report
Submitted by Jim Martin, KD4FUU

Please renew your membership right away, so you won't forget about it! The membership application may be downloaded from our website (for both renewals *and* new members) at:

<https://deltaclub.org/membership>

Annual membership fee is \$20 per individual or \$25 per family. Completed applications and payment may be mailed to:

Delta Amateur Radio Club
PO Box 342768
Memphis, TN 38184-2768

If you prefer you can print and bring the completed form, along with the membership fee, to any in-person meeting. Please contact Jim Martin KD4FUU at **kd4fuu@gmail.com** with any questions or concerns regarding application submission and/or payment of annual dues.

LIFEGREEN CHECKING FOR BUSINESS
September 1, 2022 through September 30, 2022

SUMMARY			
Beginning Balance	\$24,572.90	Minimum Daily Balance	\$24,272
Deposits & Credits	\$0.00 +	Average Monthly Statement Balance	\$24,342
Withdrawals	\$0.00 -		
Fees	\$0.00 -		
Automatic Transfers	\$0.00 +		
Checks	\$300.53 -		
Ending Balance	\$24,272.37		

CHECKS		
Date	Check No.	Amount
09/08	1571	300.53

DAILY BALANCE SUMMARY	
Date	Balance
09/08	24,272.37

SMALL BUSINESS CD *0028

Available Balance	<u>INTEREST RATE</u>	<u>YTD INTEREST</u>	<u>INTEREST EARNED NOT PAID</u>
\$10,957.42	1.590 %	\$130.01	\$7.16
<u>SHOW ACCOUNT NUMBER</u>			
*0028			
<u>ISSUE DATE</u>	<u>LAST INTEREST AMOUNT PAID</u>	<u>PREVIOUS YEAR INTEREST</u>	
12/19/2016	\$43.83	\$170.77	
<u>ISSUE VALUE</u>	<u>DATE LAST INTEREST PAID</u>	<u>MATURITY DATE</u>	
\$10,000.00	9/19/2022	10/19/2022	
▲ Hide More Details			

Applications Received - September 2022

(1) New Membership(s) - Pro-Rated Dues *	\$10.00
(0) New Membership(s) - Dues Waived	\$0.00
(1) New Membership(s) *	\$40.00
(1) Membership Renewal(s) *	\$20.00
(0) Donations Received	\$0.00
Total Dues Received	\$70.00

Other Deposits

CPR/AED Class w/card (3 club members @ \$22 each) *	\$66.00
Total Other Deposits	\$66.00

* Note: Deposits to appear on Oct 2022 Statement

Total Deposits \$136.00

Expenses

Chk # 1571 - Joe Lowenthal - Reimbursement for Shipping Expenses, VE Supplies, Huntsville Hamfest Tables, etc.	\$300.53
Total Payments	\$300.53

DARC Board of Directors Meeting Minutes

Submitted by Carolyn Horne, KX4QF

DARC Board of Directors Meeting Minutes for October 4, 2022

Attendees: Mary Jean Hall KY4FB, John Reiners KN4BVH, Carolyn Horne KX4QF, Jim Martin KD4FUU, Joe Lowenthal WA4OVO, Mike Harrison KM4MRW, Scott Adams KM4PMU, Barry McDonald W5CJ and Len Grice W4MKS.

Absent: None.

Guests: None.

The regular monthly meeting of the Delta Amateur Radio Club Board of Directors was held on Tuesday, October 4, 2022, at 6:30 PM on a Zoom video conference call, with the President serving as chair and the Secretary being present. President Mary Jean Hall called the meeting to order.

Mary Jean Hall discussed whether to have next week's Members Meeting only via Zoom or both in-person and via Zoom. The Ellendale Church of Christ has reported that their HVAC system has been fixed so the board recommends having an in-person meeting at the church. A link to the Zoom meeting will be sent by email and may also be found in the SPARKS newsletter on the deltaclub.org website.

The board reviewed options for the November Monthly Members meeting. Since November 8th is election day, the Ellendale Church of Christ venue will not be available due to it being a polling place. The options are a. meet at a different location (Ham Hilliard W4GMM has permission to have it at the Millington Fire Training Center) b. push it back a week and still have it at the Ellendale Church of Christ (Joe Lowenthal cleared this with the church staff) or c. have a Zoom-only meeting.

Mary Jean Hall said that Joe Lowenthal had proposed a program for this month. The board agreed unanimously with his proposal. The program will be "Intro to Amateur Radio Contesting" by Anthony Luscre K8ZT (pre-recorded and available on YouTube).

Mary Jean Hall gave a summary of the CPR/AED course held last month. There were 5 DARC members present, 3 of whom paid through us and 2 through the Nashoba club. There was a highly informative tour of the training and emergency equipment facilities after the class. Participants received their AHA certification cards by email this past week.

John Reiners gave an update on potential nominees for Board of Directors openings in 2023, primarily for Secretary and Director of Programs. If you are interested and will have attended at least 6 meetings as of November 2022, please let John know. It is a wonderful way to serve the club!

Jim Martin presented the Treasurer's Report. He also reported on CD options since our current CD will reach maturity this month. The board voted to renew the current CD for 25 months at 2.23% interest with additional cash from our cash account to round it up to \$11,000, and to invest an additional \$5,000 from our cash account into a 13-month CD at 1.98% interest. Jim is looking into any penalties for early withdrawal before a final commitment is made.

Barry McDonald gave an update on the 146.82 repeater status. He said it is working well as is and he has no plans for engaging climbers at this time. He also got parts for the 440 repeater he has been working on. Joe Lowenthal asked if he planned to get an amplifier for it (cost is <\$400). Barry said that given the small heat sink he found in the unit, he plans to run it at low power and use an amplifier to get it up to 50 watts, so as not to overheat the repeater and run into more issues.

Carolyn Horne announced we had two new and one renewed membership applicants. Joe Lowenthal made a motion to accept them, Jim Martin seconded the motion and the motion passed.

Scott Adams said there are plenty of snacks and food in stock. He and the board discussed options for a Christmas meal at the December meeting.

The board discussed bringing back drawings next year for those who attend in-person meetings and are present to fill out tickets.

Len Grice had nothing new to report.

Mike Harrison is working on SPARKS. He has the PayPal addition to our website on deck. The membership application form will have to be added to our site, and not offered by PayPal. Jim Martin has sent him some code to insert for that. The data flow from that form is still under analysis.

Joe Lowenthal reported that he did receive a \$30 commission check from the ARRL for new memberships. He said Mary Jean Hall had submitted a renewal which should bring in a \$5 check. They are monitoring the response time from the ARRL. He has scheduled a General Class on six Monday nights starting the first week of November and finishing December 12th for which 3 students have signed up so far. If you are interested in

taking this class, send Joe an email at wa4ovo@gmail.com with 'General Class' in the subject line and include your name, callsign and cell phone number in the body.

Mary Jean Hall adjourned the meeting at 8:07 PM. The next regular Board of Directors meeting is scheduled for Tuesday, November 1, 2022, at 6:30 PM on Zoom.

Respectfully submitted by Carolyn Horne KX4QF, Secretary

Minutes of Last Month's Club Meeting
Submitted by Carolyn Horne, KX4QF

DARC Meeting Minutes for September 13, 2022

Call to Order and Opening Remarks

The regular monthly meeting of the Delta Amateur Radio Club was held on Tuesday, September 13, 2022, at 7:00 PM at the Ellendale Church of Christ and on a Zoom video conference call, with the President serving as chair in-person and the Secretary being present on Zoom. Club President Mary Jean Hall KY4FB called the meeting to order and then welcomed everyone to the meeting. At least 43 members and guests were present for the meeting.

Minutes and Treasurer's Report

Ham Hilliard W4GMM moved to "approve the Treasurer's Report and Minutes as published in Sparks." Barry McDonald W5CJ seconded the motion. The motion was adopted by the club without objection.

Announcements

Mary Jean Hall KY4FB discussed Board of Directors openings. All positions are open should anyone wish to apply, but there is a need for a Secretary and Director of Programs. Nominations will be held October 11th. Voting will be at the November members' meeting. Mary Jean reviewed all the board offices as outlined in the Club By-Laws.

Mary Jean reminded everyone of the CPR/AED Class at 8 AM on Saturday, September 17th. It is being held at the Shelby County Sheriff's Training Facility. This is an AHA course and a certificate and certification card are available upon successful completion. There is a workbook

provided which is \$4 and the AHA certification card is another \$18. The class is about 2.5 hours, with a tour of the facility available afterward.

Mary Jean added a summary of other events coming up: 1) the Bluff City Blues Ride on October 8th and Swamp Stomper in January 2023. If you are interested in volunteering, please contact Mary Jean or a board member.

Barry McDonald W5CJ gave an update on the status of the 146.82 repeater. He and Rick Tillman WA4NVM were able to successfully bring it back up with good SWR. He is not sure what was wrong with it before and encouraged everyone to test it out thoroughly before the nightly DARC Net is switched back to it from 443.70. (Note: At the time of this publication the DARC Net has been moved back to 146.82).

Joe Lowenthal WA4OVO said 4 students from the Tech Class passed and were licensed. Three of them received new Explorer QRZ-1 radio handhelds and the 4th may also get one. Three students did not test but hopefully will at a future date. There are plans for a General Class on six Monday nights from 6:15 – 9:30 starting the 7th of November, running through the 12th of December. Joe said he will get it up on the ARRL site soon and start taking reservations. Those interested should email him at wa4ovo@gmail.com with the subject ‘General Class,’ and include their full name, callsign, and cell phone number.

Joe discussed the ARRL members application and renewal program which the Club has just started using for Tech Class graduates.

Mary Jean Hall KY4FB said there have been some requests to make the Club polo shirts available for order once again. She will contact Mid-South Solutions about the Cornerstone brand (which we used and liked last time) and give out further information next month.

Mary Jean announced that she was now in charge of the YL’s, since Linda Laseter KJ4CTX has stepped down. She hopes to start the Saturday evening weekly YL Net back up once the 146.82 repeater is available.

Mary Jean discussed options for the November 8th members’ meeting. The church is being used as a polling place, so other arrangements are in the works. There is always the option for a Zoom-only meeting.

There was a short 5–10-minute break and the meeting resumed at 7:45 PM.

Discussion / Program

The program ‘Introduction to CW’ featured a video presentation by the Long Island CW Club.

Closing Remarks

Mary Jean Hall said we are making progress on the PayPal digital payment option on our website, but it is not live yet. Right now, please continue to pay your dues by check or at the in-person meetings.

Delta Club President Mary Jean Hall KY4FB adjourned the meeting at 8:40 PM.

The next Delta Amateur Radio Club meeting will be Tuesday, October 11, 2022, at 7:00 PM in-person and /or 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 venue instructions or the Zoom link for the meeting.

Respectfully submitted by Carolyn Horne KX4QF, Secretary (2022)

Delta Ham License Training, 2022

Submitted 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. The FCC implemented a \$35 application fee on April 19, 2022.

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 2022 from Delta Classes

18 Technician

2 General

7 Extra

Note:

As of April 19, 2022 there is a \$35 FCC application fee for new hams, renewals, Vanity callsigns, etc except for license upgrade, systematic callsign issue, name, address or email changes. This is in addition to the \$15 ARRL VEC FCC exam fee.

The new Technician ARRL Ham Radio License Manual is the Fifth Edition with question pool that becomes effective July 1, 2022 for four years.

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 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 or seven sessions; one per week on a week night 6:15pm-9:30pm or Saturday day 9am-1pm.

The next General license class will probably start in early November 2022

The next Extra Class license class will probably start in early January 2023

General Class 5-22 – November 7 – December 12, 2022

A General Class is proposed for six classes from November 7-December 12, 2022 on six Monday nights from 6:15-9:30pm. Ten students need to be registered for a class to be held. The first four or five classes will be via Zoom. The last class will be FCC testing in person at Ellendale Church of Christ, 7365 Hwy 70 (Summer Ave). **If interested, send an email to wa4ovo@gmail.com with Subject line: General Class and name, email address and cellphone number in text.**

CURRENT CLASS

None

COMPLETED CLASSES

Tech Class 4-22 – July 7 – August 18, 2022The

A Technician license class was held from Thursday, July 7th to August 18th excluding August 4th.

A Technician license class was held from July 7th to August 18th on six Thursday nights from 6:15-9:30pm. The first four classes were via Zoom with the fifth and sixth classes in person at Ellendale Church of Christ, 7365 Hwy 70 (Summer Ave). Nine students began the classes with seven completing the instructional period. The FCC exam was offered on the fifth night of class, August 11th. Congratulations to all four students who earned their Technician license: David Colston KI5WQA, Morgan Fancher KI5WQL, Ilea Hymes KQ4CQF and Rod Robinson KQ4CNU. Thanks to the Laurel VE team of Joe WA4OVO, Bob AI4GI, Jeff AJ4GY, Perry N4GJ, Rick WA4NVM and Mary Jean KY4FB.



Tech Class 4-22 Testing

Photo by Joe Lowenthal WA4OVO



Three of the Laurel VEs grading the exams: left to right-Bob AI4GI, Jeff AJ4GY and Perry N4GJ. Photo by Joe Lowenthal WA4OVO

The sixth night was equipment demonstrations on FM Radio Basics by Joe WA4OVO, Satellite contact by Rick WA4NVM and Richard K4DXF, APRS by Joe WA4OVO, and digital radios by John KN4BVH.

The instructors were Joe WA4OVO, Paul KA4X, Pat W4OQG, Steve KK4VPT, David KY4FH and John KN4BVH.

Tech Class 2-22 – February 28 – April 4, 2022

A Technician license class began on February 28th for six Monday nights from 6:15-9:30pm. The first four classes were via Zoom. The class began with 15 students. Eleven students finished the four instructional classes with two students out of town. The fifth class was in-person with a review of the 421 questions and answers in the question pool as well as an opportunity to take the FCC exam. The Equipment Demonstration sixth class was given in person on April 4th.

Congratulations to Frank Barton KI5UJH (now KI5FGB), Charlie Cole KO4ZCF, Matt Coolican KO4ZCG, Bob Garrelts KI5UJI, Billy Griffin KO4ZCH, Keith Miller kO4ZCI, Bob O'Grady KO4UCJ, and Kyle Turlington KI5UJJ for earning their Technician licenses. Congratulations to Sandra West KO4ZLM for earning her Technician license on April 8th who tested with Chattanooga ARC. The two locals will test at a later date. Additional congratulations to Frank Barton KI5UJH and Billy Griffin KO4ZCH for also upgrading to General.

Thanks to the Laurel VE team of Joe WA4OVO, Jeff AJ4GY, Barry W5CJ, David KY4FH, Bob AI4GI and Rick WA4NVM for being the VEs.



Rick KJ4NWQ on APRS Demo
Photo by Joe WA4OVO



John KN4BVH on Digital Demos
Photo by Joe WA4OVO



The instructors were Joe WA4OVO, Paul KA9VAU, Perry N4GJ, David KY4FH, John KN4BVH, and Pat W4OQG. The Equipment Demonstrators are Rick WA4NVM, Rick KJ4NWQ, John KN4BVH and Joe WA4OVO.

CBU Tech Review Class 3-22 – February 23, 2022

A Technician license review session was held in Dr. Eric Welch (WD5FTA)'s junior level Introduction to Unmanned Aerial Vehicle class for 13 Christian Brother University students on February 23rd. Congratulations to Juan KO4YBR, Juan KO4YBS, Hector KO4YBT, Jake KO4YBU, Dan KO4YBV, Joshua KO4YBW, Aldrin KO4YBX, Carlos KO4YCN, and James KE8UAR earned their Technician licenses.

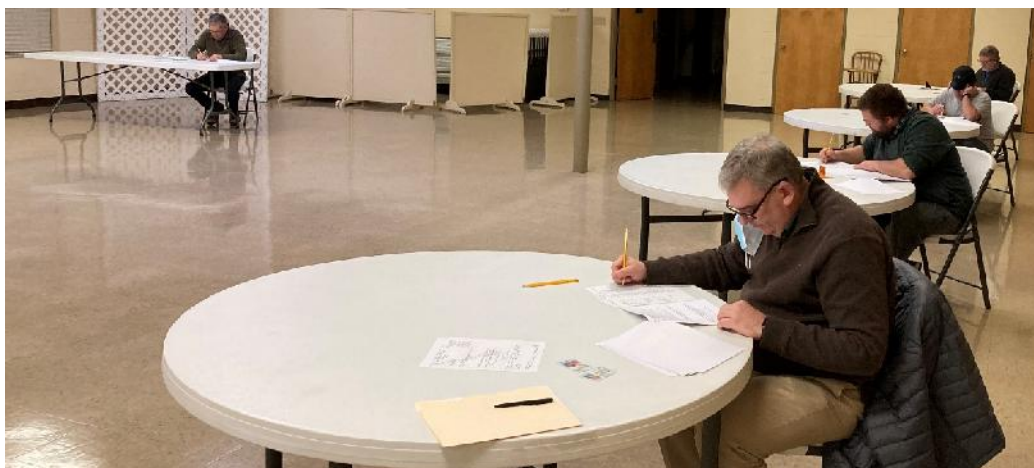
Thanks to the Laurel VEC Team of Barry W5CJ, Jelly N4HLT, David KY4FH, David AJ4KF, Eric WD5FTA and Joe WA4OVO for providing the Laurel FCC test session.

Extra Class 1-22 – January 3 – February 14, 2022

Extra Class 1-22 license class is being held via Zoom and started on Monday night, January 3, 2022 from 6:15-9:30pm. The class is for seven Monday nights until February 14th.

There are eight students in the class: Paul Broom KN4WGX, Kevin Buddle KO4UTX, Charles Byars KI5HWA, Randall Haynes KO4KKA, Kevin Kelley KO4OAO, Dylan Martin KC4DTM, Scott McDermott KO4OWE, and Jan Slezak KC1QBB. Since last report one student dropped out and one joined.

Congratulations to Kevin Buddle KY4MI, formerly KO4UTX, for testing early with a W5YI on-line testing group and upgrading on January 25th.



Extra Class 1-22 Test Session

Photo by Joe Lowenthal WA4OVO

The instructors were Joe Lowenthal WA4OVO, John Reiners KN4BVH, Dave Church AD4Q, Dean Honadle N2LAZ, Pat Lane W4OQG, Paul Roberts KA9VAU, and David Wilson KY4FH.

General Class 6-21 – November 1 – November 29, 2021

A General license class was held on five Monday nights between November 1st and November 29th from 6:15-9:30pm. The Zoom classes were on November 1, 8, 15, and 22 with in-class FCC testing on November 29th. There were 14 students in the first class; two from California and another from North Carolina. The class ended with 11 students, excluding the California students.

The test session location was at Ellendale Church of Christ, 7365 Hwy 70 (Summer Ave). Congratulations to Web Webster KC4WEB who tested early online for upgrading to General. Congratulations to Charles Byars KI5HWA, Dan Currey KO4NGZ, John Duty KK4LST, Jeff Foster KI5SEK Randall Haynes KO4KKA, and Dylan Martin KC4DTM for upgrading to General.

Thanks to the Laurel VE team of Joe WA4OVO, Perry N4GJ, Barry W5CJ, Bob AI4GI, and David KY4FH for providing the test session.

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.

INDIVIDUAL EMAIL ADDRESS IN QRZ
Submitted by Joe Lowenthal, WA4OVO

Consider going to QRZ.COM and log in. Then enter your email address on their QRZ page so other hams can contact you vial email rather snail mail. Anyone looking for email addresses has to log in to QRZ to be able to see the ham's email address.

CTCSS/PL Explained

Submitted by Bob Vawter, KW4RJ

Many hams know they generally need to use Continuous Tone Coded Sequelch System (“CTCSS”) to access an FM repeater. CTCSS, or more commonly referred to as “PL tone” or “PL” which is an acronym for Motorola’s implementation of it branded Private Line, was introduced in the 1950s by Motorola to share frequencies used for land mobile radio. Much later, the radio industry standardized the various implementations into CTCSS and “tone” began to appear in amateur radio equipment in the 1980s as a standard component. However why it’s used and how it works is often not understood or misunderstood. This article attempts to clear things up. For consistency, the author will use “CTCSS” to refer to all types of analog “tone”.

Before the introduction of CTCSS to repeaters, the transmitters would open and begin transmitting when the receive radio believed it heard a sufficiently strong signal on the carrier frequency. The squelch control that every ham is familiar with was the original and manual way to adjust when a repeater would begin transmitting. However there was a trade-off to this method. If the squelch was too tight, weaker signals would not always “break the squelch” to cause the repeater to transmit. If the squelch was too loose, then transmissions would have very long, loud squelch tails and RFI would cause undesired transmission.

Motorola originally developed its Private Line product to enable the sharing of simplex frequencies for dispatchers in local communities. Each recipient would only hear the transmissions destined for them. However the technology was quickly adopted for land mobile radio repeaters to enable customers to share a repeater frequency. Radios would only open their squelch when they heard the correct tone they should be listening for. Repeaters would pass all RF and the individual radios would be responsible for the CTCSS decoding and using it to decide when to make the received RF audible to the user. Eventually, the same technology was used to prevent multiple repeaters from interfering with each other and then technology moved into the amateur world.

When repeaters became a big deal in the 1970s, the 2m band was very crowded and frequency “pairs” were sparse given the 2m allocation was only 4 MHz wide. In order to more efficiently support high profile repeaters, the systems would be setup with their own CTCSS tone and only respond when it received a transmission encoded with its particular tone. Eventually the ham radios implemented CTCSS on the radio units as well to only open the audio when the radios received the tone from their local repeater. In ham radios, this is commonly called “Tone Squelch” or “TSQL”. This eliminated a lot of fiddling with the squelch. However many hams don’t ever set it and some repeaters still don’t offer it or offer it uniformly.

For example, SARA's W8WKY repeater in Doylestown uses 147.390 MHz output and 147.990 MHz input. That's the same frequency pair used by W8BHZ in Conneaut, OH and K3PSP in Burgettstown, PA. Given a sufficiently strong and/or high user, multiple systems may repeat the transmission that was only intended for one of them. Using CTCSS, the only repeater that will respond to the transmission is the one that decodes its CTCSS in the transmission. W8WKY uses 114.8 Hz (for historical reasons), K3PSP uses 131.8 Hz while W8BHZ has started using DCS. Thus SARA's repeater will be the only one that transmits when it hears 114.8 Hz in the transmission.

Similarly, many repeaters will transmit the same tone out so that user radios can only open for their signals in the same way. This is the "Tone Squelch" mentioned earlier. W8WKY, for example, will also transmit a 114.8 Hz CTCSS mixed with the audio when it repeats the transmissions it hears. If one configures their radio for a 114.8 Hz "tone squelch" their radio will only play audio when it decodes the CTCSS tone. This greatly cuts down on spurious opening of the squelch – notably while mobile or with HTs.

One of the caveats of Tone Squelch is that it is not always implemented consistently. In some cases, repeaters will retransmit the audio with the CTCSS code still in the information, but courtesy tones, repeater announcements, or remote base traffic does not have the CTCSS. When possible, repeater operators should send a CTCSS for all transmission as well as receive them. Radio users should determine which repeaters output CTCSS and setup tone squelch accordingly for a better user experience.

For a deep-dive on the history of CTCSS and a technical deep-dive into how it works, see [this article on repeater-builder.com](#).

Scott Yonally, N8SY

ARRL Benefits

ARRL amateur radio community. When you 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.
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- 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.

Packet Update

By: James Butler KB4LJV

One of the new products I have seen for sale is called a “solder mat”. It is a silicone rubber mat to use when you solder. It resists heat from soldering gun and keeps your work surface clean. These are flexible and you can roll them up for storage when you do not need them. The solder mats are available in different sizes depending on you needs. Some have little cavities to store screws you take off of equipment so they do not roll around and get lost. They are also available in a few colors. The best part is the price. Smaller versions are under \$8 with free shipping. These are great to protect work surface and keep track of parts. Go to Ebay and do a search for “solder mat” to see all that are for sale.



NOTE: The parts on the picture are used to show the effect of the picture



Amateur Hardware Update

By: James Butler KB4LJV

One piece of equipment we need for a test bench is a good variable power supply. A good adjustable supply should allow adjustment from 0 to 30 Volts DC. The max current it can supply is determined by the design. Some smaller ones can supply up to 2 amps. Larger ones can supply up to 10 amps or more. Today most of these supplies have digital readouts for voltage and current. They also have an adjustable current limit on them that shuts voltage down if there is a short. Ebay has many of these both new and used on their site. Some supplies even have a color LCD screen to show voltage and current. If you are looking for an adjustable power supply, check out the ones on Ebay. Do a search for “adjustable power supply” to see what they have.



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

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 News
Submitted by Linda KJ4CTX**

After a break, the YL Net will re-start this Saturday, October 15, 2022! The YL Net is every Saturday at 8:45 pm on the 146.820 frequency, which has a PL tone of 107.2 Hz. We encourage all YLs to check in with us on the YL Net!

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 38134-2768

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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Upcoming Events

For more information go to <http://hamcalendar.com/>

Memphis Area VHF/UHF Nets

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
Four-Forty Net	443.700	+(107.2)	8:30p	Fri
Mid-South Bullfrog Net	146.535	[simplex]	7:30p	Daily
Elmer Net	444.175	+ (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

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	7.180		As needed

(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

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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