

SPARKS

P.O. Box 342768 * Memphis, Tennessee 38134-2768 * Volume 31 * August 2018



Delta Amateur Radio Club (DARC)

Sparks Newsletter

Website: deltaclub.org

Contact via [Email](mailto:)

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}	
144.390 Digipeater	*Fusion

This month's meeting begins at 7pm on August 14, 2018, at Ellendale Church of Christ, 7365 Highway 70 Memphis, TN (1 ½ miles north of Highway 64 (Stage Road)).

This month's **program** will be a silent auction of the equipment of Jim Walton, a silent key. See the equipment listing later in this newsletter.

Delta Club FCC testing sessions are held monthly except December. Registration begins at 5:30 PM; testing begins by 6:00 PM. Please bring a photo ID and another form of identification, copies of existing licenses or CSCEs, and your FCC Registration Number (FRN) if one has been issued. Please be on time for registration to allow our Volunteer Examiner (VE) team to complete their work prior to the club meeting. The 2018 test fee is \$15 (cash or check). Individuals receiving their initial FCC license grant at a Delta Club test session or through a Delta Club training class will receive a complimentary individual club membership for the remainder of the current calendar year when they also show proof of ARRL membership. For more information, please email our VE Liaison, [Jeff Krause, AJ4GY](mailto:), or call at 901-301-6776.

President's Corner
Submitted by Steve Frazier, KK4VPT

Have I got a deal for you!!

No, I haven't started selling used cars. But Delta Club is selling radios and related equipment again.

Joe Lowenthal (WA4OVO) and Barry McDonald (W5CJ) have spent a lot of time during July inventorying and checking out the equipment from our recent acquisition from an estate sale. At the board meeting this month, we decided to devote the August meeting to give everyone a chance to check out everything we have and to then take part in a silent auction. We have a detailed list included here in Sparks and we plan to have everything out for you to see starting as soon as possible after 6 pm on Tuesday.

Heading to Huntsville !!

As you may have heard, we are taking a bus to the Huntsville HamFest again this year on August 18. There are still seats available and we welcome you to join us. To get your name added to the list, see Joe Lowenthal at the meeting on Tuesday or contact him prior to August 17. The cost for the bus is \$75 and includes seat on the bus, admission to the HamFest and refreshments on the bus. I drove to my first Huntsville HamFest, but I have gone on the bus the last 3 years and I will say that taking the bus is the way to go.

We are about to start the time of the year when Delta Club participates in supporting some area bicycling events and the St. Jude Marathon. The first event is the 2018 Bike MS FedEx Rock-N-Roll. This is a 2-day event September 8th and 9th. This is good one for everyone because we will be using a repeater for the whole event and for most functions an HT will work fine. We would like to have you join us Saturday and/or Sunday or any part of either day you are able.

Don't forget to check into the net that we have every night at 8pm on the 146.82 repeater. The only night we don't have the net is the 2nd Tuesday of the month and that is when we look forward to seeing you at the monthly meeting.

73

Steve Frazier
KK4VPT

Treasurer's Report
Submitted by Linda Laseter KJ4CTX

It's Time to Renew Your 2018 Annual Memberships! Download the latest Delta Club [Membership Application Form](#). The 2018 membership renewal fee remains a very modest \$20 for an individual, with an additional \$5 fee for family membership. Thanks for Your Active Support of Delta Amateur Radio Club!

DELTA AMATEUR RADIO CLUB
Monthly Treasurer's Report
For month ended July 31, 2018
Submitted by Linda Laseter Treasurer

CHECKING ACCOUNT

BEGINNING BALANCE		
BEGINNING BALANCE	as of July 1, 2018	\$6,146.90

INCOME			
Date			Amount
07/02/18		Huntsville Trip	\$ 65.00
07/02/18		Membership dues	\$ 85.00
07/03/18		Membership dues	\$ 80.00
07/04/18		Huntsville Trip	\$ 65.00
07/31/18		Membership dues	\$ 5.00
TOTAL INCOME			\$ 300.00 \$ 300.00

EXPENSES				
Date	Check #		Description	Amount
07/10/18	1454	Scott Adams	Refreshments	\$ (50.54)
07/10/18	1455	Pat Walton	Estate purchase	\$ (500.00)
07/30/18	1456	Cline Tours	Huntsville Trip	\$ (1,751.00)
TOTAL EXPENSES				\$ (2,301.54) \$ (2,301.54)

ENDING BALANCE	as of July 31, 2018	\$ 4,145.36
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CERTIFICATES OF DEPOSIT			
	Maturity Date	Balance as of	
Certificate of Deposit #1	10/10/2018	7/31/2018	\$ 10,633.14
Certificate of Deposit #2	10/19/2022	6/30/2018	\$ 10,241.12

TOTAL DARC CASH ASSETS		\$ 25,019.62
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DARC Board of Directors Meeting Minutes
August 7, 2018 -- Submitted by Mary Jean Hall KN4FBL

Attendees: Steve Frazier, KK4VPT, Bob Van Keuren, KM4SEB, Mary Jean Hall, KN4FBL, Linda Laseter, KJ4CTX, Joe Lowenthal, WA4OVO, Bob Vawter, KW4RJ, Scott Adams, KM4PMU, and Barry McDonald, W5CJ

Absent: Ed Taggard, K7EDT, and Len Grice, W4MKS

Steve Frazier called the meeting to order at 6:30 p.m. at the Ellendale Church of Christ.

Linda L. read the Treasurer's Report and the Quarterly Budget Report. She reminded the board that a CD is maturing in October, so the board discussed a few options with how to proceed in October.

Joe L. asked about listing the estate sale items in Sparks, then discussed the asking price for the major items with the board. Barry M. said he was bringing the items to the next DARC meeting. After some lengthy discussion, Bob V. recommended the board consider a silent auction during the August meeting and the board agreed. The items would be prepared before the meeting started, and individuals could "bid" on items throughout the meeting. After some discussion, the board decided to use the presentation part of the meeting to allow more time for individuals to review all of the items up for auction.

The board wanted to stress to club members throughout Sparks that if an individual was interested in a specific item, to either print out the full list at home or write down the item numbers, and then bring those to the August meeting. Barry M. and Joe L. said that most of the items appear to be in good shape and have been tested. If there is a question about a particular item, members are encouraged to see Barry M. or Joe L. Of course, the items will be available for review throughout the meeting.

Bob V.K. briefly discussed the Field Day follow-up meeting.

Joe L. informed the board that Carrie Blackwell came away from the Teacher Institute with lots of quality items that can be used in the classroom. Joe L. and Barry M. said that they were able to make contact with her from W1AW on the 20-meter band. Joe L. said that of the 12 students in the recent Technician class, 11 finished and passed. One of the ones who passed is an 11-year old.

Barry M. informed the board that the club received the insurance check for the lightning damage to the University of Memphis repeater.

Joe L. said that he was going to give a presentation at the Collierville Library to the tweens & teens group. He planned to call into the Med MERS Net at noon, then check-in on HF. He said that Austin Onek referred the Collierville Library to DARC.

Mary Jean H. told the board that a teacher in Brighton had reached out for some assistance with a STEAM/robotics club, and she asked who would be best for the role. Joe L. gave some names and contact information to her.

Steve F. reminded everyone that the MS150 was quickly approaching. Linda L. said that Bluff City Blues staff race also reached out seeking assistance. The BCB course takes riders through Shelby Forest and would likely be in October.

Without objection, Steve F. adjourned the meeting at 8:18 p.m. The next Board of Directors meeting is scheduled for Tuesday, September 4 at 6:30 p.m.

<p style="text-align: center;">Minutes of Last Month's Club Meeting July 10, 2018 Submitted by Mary Jean Hall KN4FBL</p>

Call to Order and Opening Remarks

Club President Steve Frazier, KK4VPT, called the meeting to order at 7:00 p.m. at the Ellendale Church of Christ. After a brief welcome, everyone introduced themselves by name and call sign.

Secretary's Report

Ham Hilliard, W4GMM, moved to approve the previous meeting's minutes as published in Sparks. Ken Laseter, KI4AOH, seconded the motion. The minutes were unanimously approved by the club.

Treasurer's Report

Ham Hilliard, W4GMM, moved to approve the Treasurer's Report as recorded in Sparks. Ned Savage, KA4BLL, seconded the motion. The Treasurer's Report was unanimously approved by the club.

Training/Technician Class

Joe Lowenthal, WA4OVO, reported that there were currently 12 students in the Technician Class.

Huntsville HamFest Bus Trip

The Huntsville HamFest is August 18, 2018, and you can now make your reservation for the chartered bus ride! The price of the bus trip depends on the time of signup, and includes the bus ride, \$10 admission fee, 2 breakfast biscuits (bacon, ham or plain), and drinks and snacks (water, sodas, cookies, crackers and fruit) for the bus trip:

July - \$70

August - \$75

There are no refunds for the tickets, but you may sell your ticket if you are unable to go. During the HamFest the bus will back up to the loading dock, which will give you an option to sit in a nice, soft seat during the day should you need a break from the shopping. The bus will leave Huntsville right after the 4 p.m. drawing to return to Germantown by 8 p.m. The bus will leave from Germantown Baptist Church at 6:30 a.m. and should arrive in Huntsville by 9:30-9:45 a.m. Checks can be made out to "Delta Amateur Radio Club." Steve Frazier, KK4VPT, informed the club that the forums and classes are now listed on the website.

HQ 101

Ham Hilliard, W4GMM, said that he was starting a series next month about building wire antennas. Though he will not physically build one in the series, he will discuss how to build one, pros and cons of different types, and cover any other questions and tips. HQ 101 is offered at 6 p.m. before the DARC monthly meeting, upstairs at the Ellendale Church of Christ.

YL News

Linda Laseter, KJ4CTX, announced that the next YL Luncheon will be at 11:30 a.m., Saturday, July 21 at La Hacienda in Germantown (1760 N. Germantown Pkwy).

Announcements

Steve Frazier, KK4VPT, informed the club that the Board of Directors had a brief meeting during the break to discuss an opportunity to make an offer on several items from an estate. Joe Lowenthal, WA4OVO, read through the list of items that the club would be picking up. Steve Frazier said that the list would be published in the upcoming issue of Sparks.

Presentation/Field Day

Steve Frazier, KK4VPT, announced that Ed Taggard, K7EDT, was going to be the new Director of Programs. The first half of the program was spent gathering feedback for Field Day. Ham Hillard, W4GMM, reported 1,228 contacts for the Millington location. Joe Lowenthal, WA4OVO, reported about 600 contacts for the Germantown location, and then encouraged everyone to consider participating in the upcoming year.

Steve Frazier, KK4VPT, then discussed several options for those interested in continuing with contesting. He encouraged the club members to consider visiting www.contestcalendar.com to view upcoming contests. He then discussed some other options. "Log Book of the World" operates as a secure website with several steps to create an account, so he advised those interested in trying it to not be in a rush. He described www.qrz.com as an easier approach, but it is one that requires online activity to be used. QRZ also offers different awards as hams achieve goals, such as when a contact is made in each of the 50 states. For those who prefer to visualize a map, www.levinecentral.com/adif2map allows the user to map out any contacts, and the map can even be synced with Google Earth.

Drawings and Closing Remarks

Door prize winners were: Robert Murray, shaving kit/go-bag; Scott Adams, KM4PMU, Chick-fil-A gift cards.

Without an objection, Steve Frazier, KK4VPT, adjourned the meeting at 8:02 p.m. The next Delta Amateur Radio club meeting will be Tuesday, August 14, 2018 at 7 p.m. at the Ellendale Church of Christ.

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.

HQ 101 meets at 6:00 pm upstairs at the Ellendale Church of Christ

In July Ham discussed “roll up” antennas and problems that occurred on field day.



Ham showing how to make a simple “roll-up” VHF antenna

The following instructions for a simple “roll-up” antenna was presented at Ham 101:

The 2-Meter TV Twin Lead Roll-up J-Pole Antenna

Are you ready to use your amateur radio communications skills in a real emergency?

Would you like to be better prepared?

Over the next few issues of this newsletter, this column is going to present some information that you probably already know, but, like most of us, have not gotten around to doing anything about it. When this series is completed, you will have created a communications "GO-KIT." A bag full of goodies that you would not normally be using, but, has been prepared, tested, and packaged to GO with you anywhere, quickly. With simple tools and basic skills, you will be able to create the contents of the GO-KIT to be more prepared for effective emergency communications.

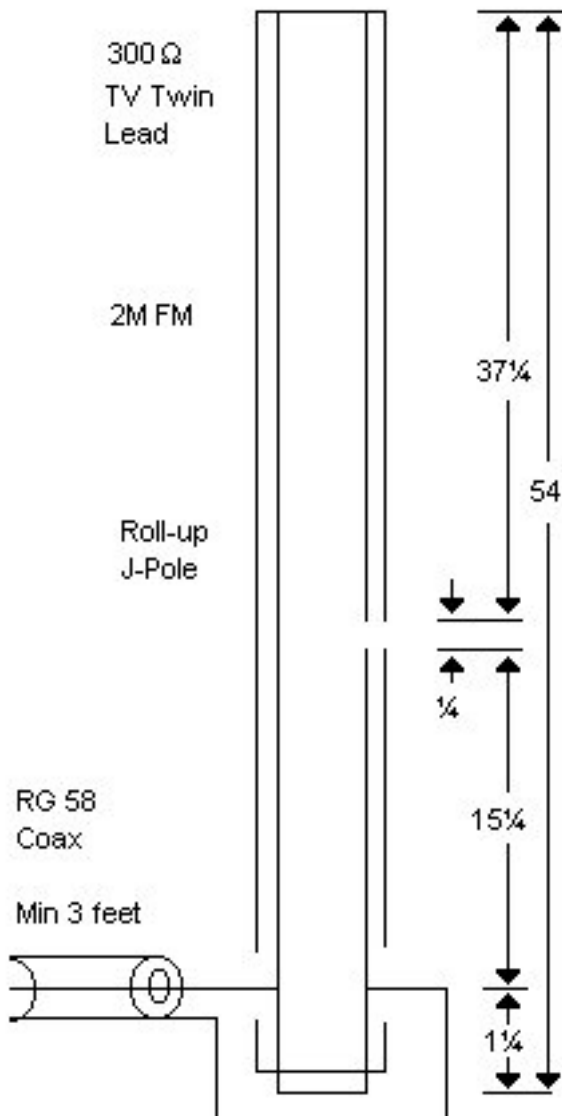
As we all know, the antenna is the most important part of any transmitter system. It must be placed as high as possible, properly matched to the transmitter, and designed to effectively

radiate the power applied to it. The antenna that we are going to construct will be made from ordinary 300-Ohm TV Twin lead wire. This wire is available at almost every hardware, drug store, and other stores that carry such items as telephone extension cords.

Now, on to the step by step.

Tools: Ruler, Wire strippers, Wire Cutters, Soldering Iron.

1. Measure 54" of Twin lead and mark this spot with some masking tape. Cut the wire about 1 . inches longer than this measurement. If this is your first attempt at building something, you may want to leave 4 " of extra wire on the piece you are working with. This will allow an additional attempt of the critical portion of construction.
2. Remove the center insulation from the bottom 1-inch of twin lead. Strip the insulation off of the bottom section of twin lead (only the 1 "). Connect the wire together at this point and solder.
3. From the splice you just made at the bottom, measure up about 1 " and remove 1/2" of insulation from each conductor. This is where we will be attaching the coax.
4. From the splice measure up one side 16" CHECK THE MEASUREMENT TWICE. Cut a gap on this side about 1/2" wide. Be sure to remove the conductive material from the notch.



5. From the splice, re-measure the total length to 54 " and trim the top.

6. Attach some coax to the opened area of the wire about 1" from the splice. The shield of the coax MUST connect to the notched side.

7. Attach a suitable connector on the end of the coax for your transmitter and GO!

Note: The antenna can be hung from almost anything using some string through a hole in the insulation about 1" from the top.

In August Ham will begin a series of presentations of wire antennas.

- August - Random Wire Antennas
- September - Vertical Antennas
- October - Dipole Antennas
- November - Double Bazookas

There will be a CD available for \$3.00 if anyone wants one.

Delta Ham License Training, 2018
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.

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 2018 from Delta Classes

34 Technician

3 General

7 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 a charge for Vanity callsigns.

The next General class will probably start in early November in the evenings.

The next Extra class will probably start in early January 2019 on Saturday mornings.

If you know anyone interested, send an email to wa4ovo@gmail.com with the Subject Line for the class they want and name, email address and cellphone number in the text. If a ham, add callsign to the text.

Tech Class 3-18 June 28 – August 2, 2018

Tech Class 3-18 had 12 enthusiastic students meeting on six Thursday nights from 6:15-9:30pm at the EMHC Ambulance Company training room on Appling Farms Parkway. The instructors were Joe WA4OVO, Barry W5CJ, Carrie KN4LCU, Perry N4PSH, and Pat W4OQG.

The equipment demonstrators on August 2nd were Joe WA4OVO on repeater basics, Rick WA4NVM and Richard K4DXF on satellites, Pat W4OQG on HF/MARS/Winlink, John KN4BVH on ARES and Rick KJ4NWQ on APRS.



Tech Class 3-18 showing off their CSCEs.

Photo by Perry Hayes N4PSH

Congratulations to the 11 students who earned their Technician licenses: In photo from left to right standing:

Rob Dyer KN4OEH,
Robert Murry KN4OEF,
Robert Cohn KN4OEP,
Ian Lucas KN4OEK,
Sylvia Lucas KN4OEJ,
Kyle Fioranelli KN4OEL,
Laura Matthews
KN4OEM, Pierce

Matthews KN4OEN, Brad Patterson KN4OEO, Rich Wilson KN4OEI, and seated Michelle Dach KN4OEG.

The WCARS VE team of Gary W5EMA, Perry N4PSH, David KM4SEC, Bill WC9S and Joe WA4OVO provided the test session.

Tech Class 2-18 February 24 – April 7, 2018

Tech Class 2-18 was held from February 24th to April 7th except March 10th and 17th on five Saturdays from 9am to 1pm or 9am to 4pm at EMHC ambulance company training room on Appling Farms Pkwy. There were nine students in the class with five finishing testing.

Congratulations to Carrie Blackwell KN4LCU, Phillip Green KN4LCT, Jim Hambrick KN4LCS, David Robertson KN4LCW and John Volmer KN4LCV for earning their Technician licenses. Additional congratulations to Phillip KN4LCT and John KN4LCV for advancing to the General Class license.



Tech Class 2-18 taking their exam:(from left to right) David Robertson, John Volmer, Phillip Green, Jim Hambrick, and Carrie Blackwell

Photo by Joe Lowenthal WA4OVO

The WCARS VE team of Gary W5EMA, David KV4QI, Perry N4PSH, Denise KM4IRR, Bob KW4RJ and Joe WA4OVO provided the test session.

The instructors were Joe Lowenthal WA4OVO, Barry McDonald W5CJ, Pat Lane W4OQG, David Webb KV4QI, Len Grice W4MKS, Perry Hayes N4PSH, and John Reiners KN4BVH.



The equipment demonstrators on April 7th were Joe WA4OVO on repeater basics, Rick Tillman WA4NVM on satellites, Pat Lane W4OQG on HF/MARS/WinLink, John Reiners on ARES and Rick Pellicciotti on APRS. Michael Knight KK4IOH gave an EchoLink, D-STAR, and DMR digital presentation on March 24th.

Tech Class 2-18 with Barry W5CJ instructing

Photo by Joe Lowenthal WA4OVO

Extra Class 1-18 January 13 – February 24, 2018

Extra Class 1-18 was held on 5 Saturdays and one Sunday from January 13th to February 24th from 9am to 1pm on four Saturdays, 1-5pm on Sunday January 28th, and at 2:30 on Saturday February at EMHC ambulance company training room, 4th for FCC testing. All classes were at EMHC ambulance company, 6972 Appling Farms Pkwy. There were 10 students taking the class with two recent Extras auditing the class.

The students were Dan KN4FBJ, Janet KN4FBI, Billy K4IOA, Jim KN4GJF, David KM4SEC, Todd W4RTV, Ed K7EDT, Mac KJ4EHE, Carlos KK 4CRO, and Robert KN4FVT. The auditing Extras were Nathan KX4IA and Rick WB9TCB.

Congratulations to Carlos KB4C (previously KX4IS and KK4CRO) and Todd W4RTV for their Extra upgrade at the February 13th Delta Club test session. Congratulations to Robert Horn KN4FVT, David Jackson KM4SEC, Ed Taggard K7EDT, Mac Tidwell KJ4EHE, and Dan Wehner KN4FBJ for their upgrade to Extra.

Thanks to the Delta Club ARRL team for providing the FCC test session. The VEs were Jeff AJ4GY, Stacy KJ4MDA, Perry N4PSH, Barry W5CJ, Tom KK4ZZZ, Bob KW4RJ, David KV4QI and Joe WA4OVO

The instructors were Joe Lowenthal WA4OVO, Paul Roberts KA9VAU, Dean Honadle N2LAZ, Barry McDonald W5CJ, David Webb KV4QI, and Pat Lane W4OQG.

Tech Review for CBU January 29, 2018

A Tech Review class was held on January 29th for 18 Christian Brothers University students in the initial Engineering Department upper division elective course, Introduction to Unmanned Aerial Systems. All 18 students earned their Technician license while one also earned her General Class license. The students were either Electrical or Mechanical Engineering majors. Eric Welch WD5FTA is the professor. He is Department Chair of Electrical and Computer Engineering.

Thanks to the Laurel VEC team led by Tim Jones N5PYQ for providing the VE session.

YL News
Submitted by Linda Laseter, 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.

Can you believe that next month the YL Net will celebrate its second year on the air!!!! Way to go YL's and a great big thank you to all the OM's that have and are supporting us. We appreciate everyone who joins us each Saturday night.

We enjoy checking in each Saturday night just to see who will join us. We hope you will set your alarm for 8:45 p.m. Saturday night and join in the fun.

YL LUNCHEON – We enjoyed our luncheon at La Hacienda Restaurant on July 21st. We missed Carrie KN4LCU who was at ARRL Headquarters increasing her ham radio knowledge (can't wait to hear more about your trip Carrie). We also missed Janice KX4BB who was traveling the country with her husband visiting their children in three different states from the east to the west. Lots of traveling and lots of fun visiting. I understand Bob (Janice's husband) even took along science projects to amuse and entertain the grandchildren. Doris KJ4THA is still nursing an injured shoulder and was not able to join us. We hope you get well soon Doris and can join us at this month's luncheon. And last but not least was Miss Gale KI4VDI who was off with a group of ladies from her church for a relaxing weekend in Arkansas.

Congratulations to Barri WB4SWP on winning the door prize for July (a set of red chili bowls with lids).

YLS this is your chance to make new friends, share ideas, ask questions, and learn something new. Not to mention all the fun and food you are missing. We would love for you to join us!

AUGUST LUNCHEON WILL BE:

August 25, 2018

11:30 a.m.

Saturday

Ellendale Church of Christ

7365 US-70

Memphis, TN 38133

Our program will be a continuation of "First Aid". We will cover when to recognize an emergency and what to do in an emergency as well as some hands-on demonstrations. It will be an interesting and fun day so hope you will join us.

Amateur Hardware Update

Article and image submitted by James Butler, KB4LJV

Many accessories we hook up to our computer use a USB or universal serial interface. This connection is on most computers now, but sometimes we need more USB ports. The USB hub allows you to hook up more USB devices to your computer and at the same time. There are two types of hubs. The passive hub uses power from your computer to connect extra USB devices. The active hub has a separate power supply to allow higher current USB add-ons to be hooked up. Speed of the USB hub is also important as USB 2.0 and USB 3.0 are both used. These can come in handy on older computers that have only one USB port. I keep a hub in my laptop computer case to use if needed. These are available for less than 10 dollars on eBay. Do a search for “USB HUB”.

James Butler
KB4LJV



Amateur Packet Update
Submitted by James Butler, KB4LJV

One good article in QST magazine each month is “The Doctor Is In”. There is lots of great technical information on Ham Radio. Now DX Engineering is sponsoring a Podcast of “The Doctor Is In”. This is available on Apple iTunes and Sticher. The twice monthly Podcast is also available on the ARRL website to listen to. The ARRL site also has previous shows so you can go back and listen in on different topics like QRP or Filters. This is another great source for Ham Radio information. The web address is <http://www.arrl.org/doctor>

James Butler
KB4LJV

DAY IN THE PARK-October 6th

The ARRL Mississippi Section is sponsoring their Day in the Park on October 6, 2018; from 9am-2pm at the pavilion in Olive Branch City Park, 8856 City Park Drive, Olive Branch, MS. (The GPS location is 34.961510, -89.838486 in EM54bw on the south side of the north lake in the park.) There will be tailgating/swapshop spaces, eyeball QSOs, HF GOTA station, and food and refreshments, as well as, a number of nice door prizes to be given away. A VE testing session will be at 10am. Talk-in will be on the 147.255 repeater, +600, PL 79.7.

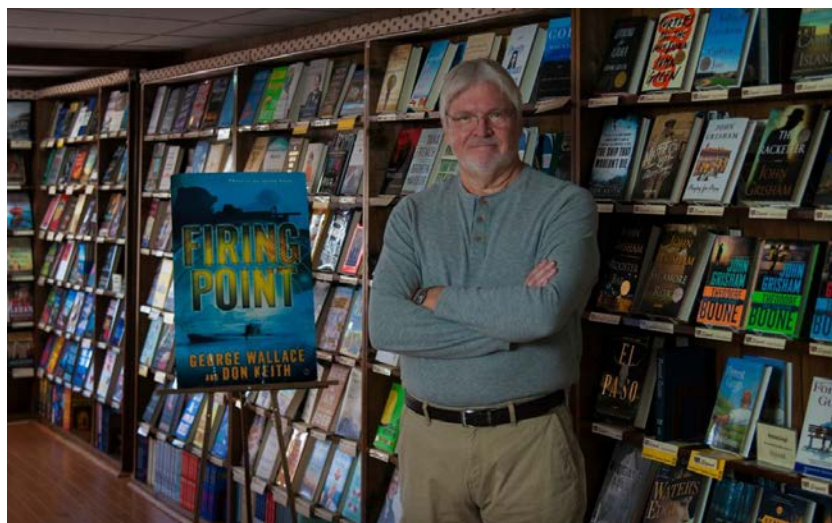
The coordinating clubs are the Chickasaw Amateur Radio Association and the Olive Branch Amateur Radio Club. For more information, contact chairman Glen Popiel glenpopiel@gmail.com, 662-404-0808.

Glen would like anyone who plans on attending, to send him an email. That is so he can have a better feel for the number of people who will attend to try to insure there is enough food or refreshment for all the hams. If you would like to help out, also send Glen an email

Don Keith, N4KC, Author, Ham, and More

by Dan Lasley, NE7JN

I first met Don Keith, N4KC, at the Jackson, MS, ham fest in 2017. As I was wandering around looking at all the goodies for sale, I noticed a guy behind a table stacked high with books. Several of these books are on World War II, a subject guaranteed to grab my interest. While he is talking with a potential customer, I flipped through several titles. This is interesting looking stuff!



The customer left after buying a book. I introduced myself and discovered that Don, the guy behind the table, is not only selling books, but he is a ham and he wrote the books he is selling.

Image courtesy of Don Keith, N4KC.

We talked about his [Undersea Warrior](#), the story of the USS Wahoo, a high-scoring World War II U.S. submarine and her captain, Commander Dudley "Mush" Morton. When I mentioned having read *Wake of the Wahoo* as a kid, Don told me who the author was, the author's duties on the Wahoo, and how the author narrowly missed going on the Wahoo's last and fatal patrol. I'm impressed; Don knows his stuff!

Because I've always had an interest in submarines and Don's *Undersea Warrior* looked interesting, I bought a copy and resumed wandering around. Once I was back at the QTH, I thoroughly enjoyed devouring Don's book.

I saw Don again later in the year at the Birmingham and Huntsville ham fests and he kindly let me waste some of his time in discussing *Undersea Warrior* and related topics. In return I bought more of his books. During one of our eyeball QSOs, Don gave me his business card, leading me to his [website](#), which says his "works, both fiction and non-fiction, are on topics such as World War II and nuclear submarines, military history, college football, writing and publishing, NASCAR, broadcasting, amateur radio, biographies and more." Even discounting the "more," that's a bunch of topics!

There's a lot of "more" to Don. In addition to the 32 books he has written or co-written, he and his co-authors (one of whom is former nuclear submarine skipper Commander George

Wallace) present talks and sign books. Don has been a guest on a number of pod casts and has written for eHam.net. He started [Untold Millions](#), "a nonprofit effort to encourage people to gather oral histories and offer tips on making them available via free online book publishers." Don says he calls "the program Untold Millions, so named for the untold millions of first-person [accounts](#) already lost to history."

Don won the prestigious [2015 ARRL Bill Leonard award](#) for "[Wave of Popularity](#)," an article he wrote for American Legion magazine.

Don is an active ham with interests in SSB, digital modes, and CW. In his qrz.com page, you'll see a photo of the J-38 key that belonged to his dad, Clyde, WA4AZJ (SK). Don uses the key on Straight Key night.

When I asked Don about his dad's contributions to Don's becoming a ham, he said, "He was one of the first TV repairmen/antenna installers in the Southeast, and that electronics background sparked my interest in ham radio and broadcasting as a kid. Ham radio actually led directly to a 45-year career in broadcasting and advertising. But though Dad could build a transmitter and receiver from scratch, he never could get past 5 WPM so was only a Technician-class. He gave me a rough time because CW came so easily to me that I had my 5 WPM in a week and got a code proficiency certificate from the ARRL for 35 WPM before I turned 16 years old. But be assured I could never have built a transmitter from scratch! That J-38 straight key, by the way, is WWII-vintage, manufactured by Lionel. Yes, the same outfit famous for its model trains. Like so many industries, when the war started they turned their expertise to manufacturing things for military use. I don't know any more about its history but I do know it causes considerable hand cramps for a guy more accustomed to a keyer and paddle...which I happily reconnect immediately after Straight Key Night."

If that's not enough "more," Don's and George Wallace's novel [Firing Point](#) has been filmed as a movie named "[Hunter Killer](#)," which "will be in wide release starting on October 26, 2018." Don recently told me more movie news based on his books: "I have another that has been optioned for a possible film. And I have two more that I have written screenplays for that are in various stages of possibly becoming movies."

Will Don be the first ham to be nominated for (**or win!**) an Oscar? Find Don at table #40 at the Huntsville ham fest and discuss it with him!

Amateur radio based VLF comms gear used in Thailand cave rescue
Wed Jul 11, 2018 6:16 pm (PDT) . Posted by: "Tim Reimers KA4LFP"

If you have been following the news much lately, you are very likely aware of the international effort to pull off the cave rescue in Thailand of the 12 children and one coach trapped underground.

If you thought about it much you probably wondered how someone could find them underground in a maze of cave passages dozens of miles long and find their way back out again to tell the other people involved in the rescue effort in other parts of the caves and above ground that " I found them," much less coordinate communications back and forth and allow divers and rescuers deep underground to communicate with people back on the surface to keep them informed as to the action plan.

The answer is **extremely low frequency** or **VLF** radio systems.



VLF rig shown in the article

See below for some links and history regarding the development of this system by amateur radio operators, for precisely this sort of reason. Cavers all over the world use systems like this, largely designed by amateur radio operators, because spending money developing this technology isn't of interest to the big corporate cellular carriers. They see no profits to develop this type

of equipment, nor is military equipment available to or affordable by the everyday citizen. One of the primary inventors of this form of technology and the person who made it capable of communicating for far greater distance than previous systems ever had was an amateur radio operator and design this system through the knowledge and skills he gained as an amateur radio operator. His name is **John Hey, callsign G3TDZ**

This kind of rescue, and the emergency communications skills, techniques, and engineering, that amateur radio operators do is exactly why we build and develop the skills that we have. And this while more one of the unusual cases, is exactly why we do it. you can talk all you want about cell phones and cell towers in the internet, but a plain fact is that reliable cell phone communications, and the ability to access the internet without thousands of dollars in Satellite equipment, exists only in about 10% of the surface of planet Earth and practically not at all underneath it. if you want to communicate far out at sea, underground, and probably even in outer space, you better find yourself a **ham operator!**

<https://hackaday.com/2018/07/11/ham-designed-gear-used-in-thailand-cave-rescue/>

<http://www.scavalon.be/avalonuk/technical/radio1.htm>

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Please mention that this was originally published on Hackaday and a link to the article. Here's a shorter link you may use: <https://hackaday.com/?p=316089>

HUNTSVILLE HAMFEST BUS TRIP - AUGUST 18, 2018

Submitted by Joe Lowenthal WA4OVO, Director of Training

DARC is sponsoring a 50-passenger bus trip to go to the Huntsville HamFest on Saturday, August 18, 2018. The fare is \$75. The fare includes the \$10 HamFest entry ticket. There will be biscuit sandwiches, water, sodas, chips, and fruit on the bus going to Huntsville and whatever is left for the trip back. There are no refunds, but you can sell your seat to someone else if you cannot go. Let me know.

Cash or checks will be accepted for payment. Make checks payable to Delta Amateur Radio Club. You can pay at a meeting. You can also send your check to Joe Lowenthal WA4OVO, 6675 Ashbridge Cove, Memphis, TN 38120. Please include your name, call-sign, cell phone number, email address and whether you want bacon, ham or plain biscuits.

Reservations will be on a first come first paid basis.

The bus will leave Germantown Baptist Church, 9450 Poplar Avenue at Johnson Road, Germantown, TN at 6:30am. The bus will leave Huntsville immediately after the 4pm door prize drawing and return to Germantown Baptist Church approximately 7:30pm.

Germantown Baptist Church has asked us to park in the back on the northeast side of the church so there will be security cameras on the cars.

The Huntsville HamFest website is www.hamfest.org.

ARES
Amateur Rescue Emergency Service

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.

Nothing is being done about “harmful interference” by the FCC; YES it is!
Forwarded by Joe Wray WD4GXI

FCC Fines Louisiana Man \$18,000!

The FCC has handed down a massive \$18,000 fine to a Lake Charles, LA man after finding him to have violated several rules related to Ham Radio operation.

Author: Michael Behrens

Published: 1:44 PM CDT July 27, 2018

Updated: 2:23 PM CDT July 27, 2018

LAKE CHARLES, LA — After conducting an investigation stemming from a multitude of complaints, the Federal Communications Commission, FCC, has fined Jerry W. Materne of Lake Charles, Louisiana \$18,000. The fine was handed down on July 25, 2018 and is for apparently causing intentional interference and failing to provide station identification while broadcasting on amateur radio frequencies.

The FCC had received complaints going back to at least 2017 that Mr. Materne was causing interference to a local Ham Radio repeater in Lake Charles, Louisiana. He was banned from using this local repeater in March of 2017. The FCC issued him a Letter of Inquiry in May of 2017 making him aware of the complaints and asking him to address them. He responded by denying that he was causing the interference. Complaints continued to roll into the FCC, including one alleging that he caused interference to an emergency communications net on the local repeater during the landfall of Tropical Storm Cindy in June of 2017. Local Ham Radio operators tracked the interference to Mr. Materne's home.

The FCC, taking action based on the complaint from Tropical Storm Cindy, sent Materne an official warning the day following the complaint. He responded by saying broadcasting on the same frequency as the repeater was permitted and adding that he was “tired of this trash harassing me” and “I’m going to tell you like I tell this trash over here. Pound sand lady.”

Following yet even more complaints, an agent from the FCC office in New Orleans was sent to investigate. The agent tracked the interference to Mr. Materne's home and observed him and his station, operating as KC5CSG, for 6 to 7 hours. At times Materne would play music on the channel and threaten other operators and the local Ham Radio club that they would not be able to use the frequency later that night. Mr. Materne then drove to the site of the Lake Charles repeater and broadcasted from his vehicle for 30 minutes interrupting the frequency and preventing use of the repeater.

In addition to the violation of causing intentional interference, the violation of failing to transmit his call sign is related to not identifying as KC5CSG during his broadcasts. Given the circumstances around these rules violations the FCC deemed it appropriate to fine Mr. Materne a total of \$18,000.00 to be paid in 30 days from the release of the fine. His other options are to file of have reduced or canceled and or paid though installments over a period of time.

**Jim Walton Estate Equipment for Silent Auction to be held at the
August meeting of Delta Club on August 14, 2018 (MMO – Make Offer)**

No.	eBay	Asking	Description	Manufacturer	Model	Comments
1	\$750-\$975	\$750.00	Transceiver, HF	Yaesu	FTdx1200	s/n 5H340062
2	\$110.00	\$100.00	Microphone	Yaesu	MD-100	s/n 9411
3	\$142.00	\$125.00	Tuner	MFJ	MFJ-939Y	no ss/n
4	none	\$75.00	Power Supply	MFJ	MFJ-4230MVP	s/n 157002750FRC12
5						
6	\$600-\$800	\$600.00	Transceiver, HF/VHF/UHF	Yaesu	FT-897D	s/n 90074
7	none	\$100.00	897 Tuner	LDG	AT897	no s/n
8	\$35-\$65	\$50.00	Watt Meter	LDG	FT-Meter	no s/n
9						
10	\$207.00	\$250.00	Antenna Analyzer	MFJ	MFJ-269	no s/n
11						
12	\$50-\$85	\$80.00	Transceiver, 2 meter	Kenwood	TM-261	s/n 40900412 w/stand
13						
14	\$220.00	\$125.00	Inverter	Centech	2000/4000 watt	s/n 372091502
15						
16	\$99.00	\$100.00	Tuner	LDG	Z-100	no s/n w/ mini phone jack
17	none	\$100.00	Tuner	MFJ	MFJ-941C	manual tuner; E version \$149.95
18	\$25.00	\$25.00	Tuner, HF long wire antenna	MFJ	MFJ-16010	no s/n
19						
20		\$75.00	Data Interface	Signalink	SLUSB	stand alone with cables
21						
22	\$165-\$175	\$100.00	Receiver, Short wave	Allied	AX-190	s/n 002235
23	\$170-\$411	\$100.00	Receiver, Short wave	Hammerlund	HQ-145R	s/n 27541298 eBay parts only \$100

24						
25	\$957.00		HF Receiver	Collins	75S-3B	s/n 17672
26	\$395-\$750		Power Supply	Collins	516-F	s/n 20530
27	\$184-\$312		Station Control	Collins	312B-4	s/n 63701
28	\$56-\$125?		Speaker	Collins		no s/n
29	\$600-\$890		Amplifier	Collins	30L-1	s/n 29712 eBay Parts only \$1175
30	\$1,012.00		Transmitter	Collins	32S-3	s/n 101372 eBay clean condition
31	none		Microphone	Collins	SM-2	s/n 4417 in box with soft pullstring bag and stand
32			Transmitter	Collins	32S-1	s/n 11997
33						
34	\$67-\$76	\$20.00	Tester, VTVM	Heathkit	IM-11	
35	\$177.00	\$100.00	Transceiver, HF	Heathkit	HW-101	Used price with both filters tested
36	\$114.00	\$75.00	Transceiver, HF Single Sidebander	Heathkit	HW-32A	s/n 13711
37	\$150-\$177	\$75.00	Power Supply	Heathkit	HP-23A	no s/n Parts only \$50-\$150
38	\$197.00	\$75.00	Power Supply	Heathkit	HP-23B	s/n 00301 Parts only \$90-\$140
39						
40	\$132.99	w/OmniD	Power Supply	Ten-Tec	252MD	w/ meter
41	\$231.57	\$200.00	Transceiver, Omni D	Ten-Tec	546	s/n 0729 / eBay priced with 252MD power supply
42	\$59.95	\$45.00	Keyer	Ten-Tec	KR-20A	
43						
44	\$14.95	\$10.00	Antenna, hamstick	MFJ	MFJ-1640T	Goes with Mount, Trailer Hitch MFJ-2822

45	none	\$20.00	Mount, Trailer Hitch	MFJ	MFJ-2822	Goes with Antenna, hamstick MFJ-1640T
46		\$20.00	Antenna, magmount, 1/4wave			
47		\$15.00	Antenna, telescopic			for portable with steel mounting plate
48		mmo	Breadboard	A.C.E	227	prox 7" x 7"
49		mmo	Chimney, Air System for tube	Eimac	SK-506	for 4-1000A
50	none	mmo	Coax Switch, 12 port	B&W	552	
51		\$30.00	Coax Switch, 2 position			
52	\$95-\$110	\$90.00	Coax Switch, 6 port	MFJ	MFJ-1700C	
53		\$1.00	Connectors, UHF			
54		\$15.00	Frequency Counter	MJF	MFJ-886	no s/n
55	\$79-\$107	\$50.00	Instructograph	(military)		circa 1947, for code practice less tape
56	\$36.50-\$37.13	\$25.00	Isolator, Line, RF	MFJ	MFJ-915	
57		mmo	Key	Vibroplex		s/n 66278, broken, parts only
58		\$75.00	Key	Vibroplex	Champion	
59	\$70.00	\$50.00	Keyer, electronic	Hallicrafters	HA-1	
60		\$15.00	Kit, CW Transmitter, 80 meter	Vectronics		may be VEC-1280K, MFJ subsidiary
61	\$15-\$45	\$35.00	Lightning arrestor	Polyphaser	095-0927T-8	1.2-2.0 GHz
62		\$2.00	Magnifying Glass		00319	w/ helping hand aligator clip
63		\$250.00	MegOMeter	Western Electric	AN/USM-178	In carrying case (Checks for line leakage)
64		mmo	Meter			with coil outboard
65		\$15.00	Microphone	Electrovoice	423A	s/n 2212
66		\$10.00	Microphone	Icom	Dynamic	w/ 3pin plud

67	none	mmo	Microphone	Regency	600-389-1	
68		\$20.00	Microphone	Telex	TEL-66T	w/ PJ-068 connector
69	\$41.31	\$30.00	Microphone	Yaesu	MH-31	For FT-897, RJ45 connector, no cable
70	\$29.95	mmo	Microphone	Turner	250/251	
71		mmo	Microphone, on stand			wire cut
72	\$35-\$45	\$50.00	Microphone,HF	Astatic	D-104	UG8
73		\$20.00	Monitor, 17" TFT LCD	Cornea Technologies	CT1704	s/n MPKD03232751
74	none	\$50.00	Morse Code Reader	MFJ	MFJ-461	Pocket
75	\$6.99-\$9.99	\$4.00	Multimeter	Micronta	22-212A	no leads
76	\$50.00	\$25.00	Multimeter	Radio Shack	22-216	
77	\$175.00	\$50.00	Multimeter	Simpson	260	
78		\$20.00	Oscilloscope	RCA	WO-91B	parts only
79		\$20.00	Panel, solar, 10w, 18V, monocrystalline	UPGI.com		16"w X 11"h
80		\$1.00	Parts Box, plastic, double sided			8"x5" 16 total compartments
81		mmo	Power Supply	Mobitronic		120v 5A to cigarette lighter connector
82		\$10.00	Power Supply		homebrew	non regulated 12 volt/20 amp
	\$28-\$60	\$35.00	Power Supply 12 amp	Astron	RS-12A	s/n 06127
83	\$39.99	\$30.00	Power/SWR Tester	Radio Shack	21-520A	
84		\$1.00	Program Guide for VX-5 Radio	Yaesu	VX-5	Laminated guide
85	\$20.00	\$15.00	Radio Headset, AM	Sentry	HW701	with am radio
86	\$46.00	\$30.00	Radio, Handheld VHF/UHF	Yaesu	VX-3	s/n 8E170833 w/software
87	\$150.00	mmo	Receiver	Gonset	G-66	Parts only \$40-\$170 / Parts only G-66 & G-77 \$200

88	\$129.00	mmo	Transmitter	Gonset	G-77	Parts only \$75 / Parts only G-66 & G-77 \$200
89	\$19.99	mmo	Receiver, aircraft frequency?	K7K Radio AV		believe air to ground
90		mmo	Relay Interface for Amplifier	W4TIL	Vintage	
91	none	mmo	RTTY/CW Interface	MFJ	MFJ-1228	w/ 12pin cardslot connector
92	\$14.80-\$50	\$15.00	Scanner	Uniden	BC350A	
93		\$2.00	Scanner, portable w/case	Uniden	BC200XLT	no battery
94		\$10.00	Spring, chrome			for auto whip antenna
95		\$2.00	Stripping tool, coax			for RG58/59
96	\$9.95-\$16.98	\$10.00	SWR/Field Strength Meter	Lafayette	99-25835	for HF
97	none	\$100.00	Transceiver	Drake	TR-4	s/n 27318 /eBay \$140 parts only
98	\$35-\$45	mmo	Transceiver, 2 meter 10w	Icom	IC-280	
99	\$20.00	mmo	Transceiver, 2 meter crystal	Icom	IC-22	
100		mmo	Transceiver, qrp cw	MFJ	MFJ-9200	
101		mmo	Ultimate Linking Interface	WB2REM/G4CDY		www.ilinkboards.com

SPARKS Newsletter & 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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Public Service Events

If you are a coordinator for any of these events, please review the listed information. Please [email](#) corrections or additions.

2018 Date	Event	Contact Information
Jan. 14	Swamp Stompers 50K/25K Run	Keith Barton, KT4EP
May 5	March of Dimes March for Babies	Linda Laseter, KJ4CTX
Sep. 8	2018 Bike MS: FedEx Rock-N-Roll	Darrell Sheffield, KK4D
Oct. 6	Bluff City Blues 100 Ride	tbd
Dec. 1	St. Jude Marathon	Roger Schlichter, WR4R

Area HamFests

January 26-27	Capitol City Hamfest in Jackson, MS
February 9-11	HamCation 2018 in Orlando, FL
February 17	LCARC's 2018 Winterfest in Hoxie, AR
March 2-3	BirmingHAMfest 2018 in Birmingham, AL
March 24	Ides of March HamFest in Union City, TN
April 14	Memphis FreeFest in Bartlett, TN
May 18-20	Hamvention in Xenia, OH
July 28	Greater Nashville & Middle TN HamFest in Lebanon, TN
August 18-19	Huntsville HamFest in Huntsville, AL

Tennessee Ham Radio License Plate

Submitted by Joe Lowenthal, WA4OVO

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>

As of July 1st, 2017, you must send a copy of or show an ARES membership card to keep from paying the \$25 surcharge for new plates or renewals. If you send a renewal in by mail with the lesser amount and do not include a copy of your ARES membership card, they will return your renewal and check due to insufficient funds.

If you want to become an ARES member, complete an ARES Registration Form FD-98 on the TNARES.com website. Then click on Information in the upper right. Scroll down and click on ARES Membership Application: [FSD-98](#).

https://docs.google.com/forms/d/e/1FAIpQLSekaoB6a2YrGNKoSvCq1M7UST9aE_RwnewMuT-DfgYmWJ_QRg/viewform

If you are not an ARES member and you do not want to pay the \$25 surcharge for renewal, you can get a regular plate for no additional charge. You will need a copy of your previous registration or there is an additional \$3 charge.

If a spouse is also a ham, only one of the couple needs to be an ARES member if the auto is registered in both names. If registered in the spouse's name, the spouse must have an ARES membership card.

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 and listed below:

Amateur Radio

Available to: Tennessee residents who hold an official FCC-issued amateur radio license (unrevoked and unexpired).

Documentation Required: Application supported with copy of the FCC Amateur Radio license.

Cost: Annual fee of \$51.50; Members of emergency, rescue squad and Amateur Radio Emergency Service - \$26.50.

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
Super Sunday Niner Net	927.6125	- (146.2)	8:30p	Sun

Delta Club sponsored Nets are shown in red.

TENNESSEE HF NETS

As of January 2018

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	7.180		As needed
(Center for United States Earthquake Consortium)			

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

DELTA CLUB ADVERTISEMENTS



MID-SOUTH AMATEUR RADIO SUPPLY (MSARS)

6631 Vallendar Cv., Bartlett, Tennessee 38135

tel: 901-371-9700 • fax: 901-266-3374 • web: www.msars.com

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HT	Magnet	UHF	RG-213
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HF	Window Mount	BNC	450 & 300 Ohm
Wire	Swivel Ball	RCA	Rotor Cable

LDG Electronics	Accessories	Miscellaneous
Automatic Antenna Tuners	RF Chokes	Gordon West Books
Remote Tuners	Power Poles	Coax Seal
Brand Specific Antenna Tuners	Antenna Switches	Fuse Holders
Baluns	SWR/Power Meters	Remote Tuner Boxes
Ununs	Mic Holders	Dog Bone Insulators

Owners/ Operators

Steve
W5VAA

Rosalinda
WN2V

Ham
W4GMM

Mid-South Amateur Radio Supply, (MSARS.COM) is owned and operated by local hams who are dedicated to promoting the hobby and providing help to anyone interested in ham radio. We actively support the local amateur radio clubs and are ARRL members.

MSARS offers free antenna building classes each year and help many new hams with guidance on their first radio, setting up a ham shack, programming a radio and much more. We are proud to be a part of the ham radio community and are *here to help you*.

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)



Joe Miller
Owner

Chick-fil-A Paragon Place

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At Poplar and Massey

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Joe.Miller@cfafranchisee.com

chick-fil-a.com

Please thank our sponsors by using their services and mentioning that you saw their ad in the Delta Club SPARKS Newsletter!

I have 4 ten foot sections of rohn 25g tower and a top for sale. Make me an offer.

Hugh, WB4SLI
hugh.wardlaw@yahoo.com

We offer our continued thanks to EMHC ambulance company for generously providing their training room for the many ham radio classes given there.

Advertisement forms can be downloaded from our website –
<http://w4bs.org/aboutUs.html>