

SPARKS

P.O. Box 342768 * Memphis, Tennessee 38134-2768 * Volume 22 * April 2016



Welcome to the Delta Amateur Radio Club

Visit our home on the web at: <http://www.deltaclub.org>

EMAIL: darc4you@gmail.com

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

Newsletters; <http://www.deltaclub.org/sparks.html>

W4BS

REPEATER SYSTEM

146.820^{-107.2} 147.360^{+107.2}

146.625^{-107.2} 443.200^{+107.2}

224.420^{-107.2}

This month's meeting begins at 7pm on April 12, 2016, at Ellendale Church of Christ, 7365 Highway 70 Memphis, TN (1 ½ miles north of Hwy. 64 – Stage Road).

In this month's program we welcome Glen Popiel, KW5GP, for his presentation on the Arduino. Glen is the author of ARRL's "Arduino for Ham Radio," which contains 19 Arduino-based Ham Radio projects. Glen is a Volunteer Examiner, member of QRP-ARCI and the Olive Branch Amateur Radio Club. By day, he is a Network Engineer and Technology Consultant for Ciber, Inc., and the Mississippi Department of Education, specializing in Open Source solutions, and has worked in the computer and electronics field for over 40 years.

Delta Club FCC testing sessions are held every month except December. Registration begins at 5:30 PM and testing begins by 6:00 PM. Please remember to bring two forms of identification, one of which is a photo ID, and copies of any existing licenses or CSCEs. You need to know your FCC Registration Number (FRN) if one has been issued. Please be on time for registration to allow our Volunteer Examiner (VE) team to finish in time to attend the club meeting. The 2016 test fee is \$15 (cash or check). Individuals who successfully test for 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 contact our VE Liaison, Jeff Krause, AJ4GY, 901-301-6776 or AJ4GY@comcast.net.

Congratulations to those who passed exams during Delta's March, 2016, test session: new General class licensee Louis M. Rhinehard, KM4RCX, and new Extra class licensees William Varnadore, KG7QAR, and John L. McVey, Jr., KM4OIX.

President's Corner

Submitted by Ken Laseter, KI4AOH

Spring is finally here! Don't know about you, but this is my favorite time of the year with everything budding out and turning green again. I don't like the sinus problems caused by the pollen, but with the assistance of modern pharmacology I survive.

I don't have much for this month's article so I'll mention a couple of things below and simply say that I look forward to seeing everyone at the Delta Club meeting this coming Tuesday evening at 7:00 pm.

FreeFest is this Saturday from 9:00 am til 3:00 pm at the Bartlett Station Municipal Center, 5868 Stage Road, Bartlett, TN. I'm looking forward to seeing you there and looking forward to seeing the new toys the exhibitors have. I'm sure one of them will have something that I can't live without.

Don't forget to check into the DARC information net on the 146.820 repeater at 8:00 pm each evening, and when you check-in, make sure to thank the net control operator for taking time from their family and busy schedule to call the net for us. They are some our most valuable assets!

As a closing note, if you have not renewed your club membership now is the time. Linda will be glad to accept your renewal application and cash, check or money order.

See you at the meeting Tuesday night!

73,

Kenneth Laseter
KI4AOH

Treasurer's Report

Submitted by Linda Laseter, KJ4CTX

DELTA AMATEUR RADIO CLUB

Monthly Treasurer's Report

For month ended March 31, 2016

Submitted by: Linda Laseter, KJ4CTX Treasurer

CHECKING ACCOUNT

BEGINNING BALANCE

BEGINNING BALANCE as of March 1, 2016 \$ 6,901.83

INCOME

Date	Description	Amount
3/8/2016	Membership dues - 2016	\$ 155.00
3/8/2016	Sale of Beebe ham equip	\$ 460.00
3/15/2016	Sale of Beebe ham equip	\$ 25.00

TOTAL INCOME \$ 640.00 \$ 640.00

EXPENSES

Date	Check #	To	Description	Amount
3/8/2016	1368	Jim Cissel	Batteries for microphones	\$ (7.65)
3/22/2016	1369	Joe Lowenthal	Tables for training MCHC	\$ (87.38)
3/22/2016	1370	Rick Tillman	Power supply	\$ (45.00)

TOTAL EXPENSES \$ (140.03) \$ (140.03)

ENDING BALANCE as of Mar 31, 2016 \$ 7,401.80

CERTIFICATES OF DEPOSIT

	Maturity Date	Balance as of	
Certificate of Deposit #1	7/10/2016	1/9/2015	\$ 10,280.23
Certificate of Deposit #2	10/11/2016	10/9/2015	\$ 5,050.12

TOTAL DARC CASH ASSETS \$ 22,732.15

This Month's Board Meeting Minutes

7:00pm, April 5, 2016 - Submitted by Dan Lasley, NE7JN

Attendees: Steve Frazier, KK4VPT, Ken Laseter, KI4AOH, Linda Laseter, KJ4CTX, Jim Cissell, KI4I, Joe Lowenthal, WA4OVO, Michael Knight, KK4IOH, Len Grice, KM4MRY, Dan Lasley, NE7JN. Barri Munday, WB4SWP, and Bill Stevens, WC9S, were absent. Delta club member Ray Miller, AA4UK, attended.

The meeting was called to order at 7:04 pm. Jim Cissell reported that Glen Popiel, KW5GP, will present the April program on Arduino projects, followed by Michael Knight, Field Day (May), and Ken Johnson, KBOZTX, Holly Springs tornadoes (June).

Michael Knight discussed the disbursement of four \$50 prizes that Delta is donating to FreeFest and said Field Day planning will continue April 12 on the Field Day site.

Joe Lowenthal said his recent Tech class participated in the Delta club 146.82 net; several attendees heard the class that evening. Joe discussed plans for the Huntsville bus trip in August; see Joe's article in this issue for details. He has received a request for help with a high school Career Day event and another request from the Center for Earthquake Information for help in ham radio licensing of 40 high school teachers.

Linda Laseter presented a quarterly update on the club budget and spoke on preparations for a "Ham 101" class for new and returning hams. Her forceful, cogent presentation on this class inspired Michael Knight to volunteer for the committee, whose members will gather just before the April club meeting.

Dan Lasley discussed goals and strategy for the club web site and encouraged Ken Laseter to pursue one of his best ideas for a future program.

Ken Laseter verified via Michael that the Ham WAN equipment was operational on Methodist North and notified us that Danny Banks, KJ4FXZ, has taken on the duties of Delta Club Information Net manager, replacing Phil Fentress, AK4UE. See Joe Lowenthal's article in this issue for details. We thank Phil for his service to the ham community.

The meeting adjourned at 8:15pm.

Last Month's General Club Meeting Minutes
March 8, 2016 - Submitted by Barri Munday, WB4SWP

The meeting was called to order by Ken Laseter, KI4AOH, at 7:00pm. Introductions were made by name and call sign.

Ham Hillard, W4GMM, moved to accept meeting minutes as printed in Sparks; seconded by Rosalinda Melinda, WN2V.

Ham Hillard moved to accept the Treasure's report; seconded by Rosalinda Melinda.

Linda Laseter, KJ4CTX, asked for 17 volunteers for the Walk for Babies/March of Dimes on April 30th at the Botanic Gardens.

Rosalinda Melinda, WN2V, will be among those operating from Special Event Station N2S in Marion, Arkansas, on April 30th and May 1st in observance of the Sultana Festival. She will provide a flyer at the next meeting.

Steve Smith, W5VAA, mentioned the Spring AuxComm event on April 2nd, 9am-12pm. Communications will be a directed net using Delta's repeater on 146.82. He also mentioned the TEMA AuxComm event May 5-8 at the Fire Academy in Middle Tennessee.

Pat Lane asked for volunteers for the Diabetes Tour De Cure on June 4.

Bill Stevens, WC9S, covered preparations for Field Day, June 25th and 26th, and said the 146.625 repeater will be down until its cans have been retuned.

Joe Lowethal, WA4OVO, said he has 3 students in the General Class and 7 in the Tech class. He also mentioned plans for the bus trip to the Huntsville ham fest, August 20th.

The next Medical Reserve Corps (MRC) meeting is April 7th from 4:30-6:00 at 1075 Mullins Station Road, classroom W206. Tina McElravey, KM4PMZ, is the MRC Volunteer Coordinator and Ryan Turner is the new ARES Shelby County Emergency Coordinator.

Tony Brignole, WA4KHN, said [FreeFest](#) is full and has a waiting list. Money from ticket proceeds goes to LeBonheur Hospital. There are many prizes for both hams and non-hams. FreeFest will be open from 9am-3pm on April 9th; see the link for a map to the event.

Jim Cissell, KI4I, mentioned the Ides of March ham fest in Union City on March 26th.

Larry May, K4QZF, presented the evening's program on Logbook of The World.

Barri Munday, WB4SWP, was the ticket drawing winner and the meeting adjourned at 8:30pm.

Amateur Packet Update

Article Submitted by James Butler, KB4LJV

One of the features of the ARRL site is the audio news program they have each week. This news program has articles for the week in Amateur radio. It has been a great source of news. On the website not only can you listen to the file, but also download the mp3 audio file to put on your cell phone or any mp3 player to listen to at your convenience. This is a great way to get Amateur radio news each week. You can also listen and download the news programs from previous weeks. The programs last about 15 minutes each. Go to <http://www.arrl.org> and search for audio news to listen to or download the news programs.

Amateur Hardware Update

Article and image submitted by James Butler, KB4LJV

Some of the newest modes for Amateur radio operation are digital modes. To operate digital modes in the past we needed additional hardware boxes costing hundreds of dollars. Now many modes can be done with your home computer for free. One of the new great programs for using the newest digital modes is "Fldigi." This software package can be downloaded and run on your computer to allow you to use these new modes. Some of the modes supported are CW, HELL, MFSK, MT63, PSK, BPSK, RTTY, THOR, THROB, WEFAX, and NAVTEX. The program works well and is a free download. See the [Beginners' Guide to Fldigi](#), the [Users Manual](#), and go [here](#) to download the software.

The image on the next page is a screen shot of Fldigi in operation.

fldigi - KB4LJV

File Op Mode Configure View Logbook Help

7.030

Frq 7.110 On 0726 Off 0727 In Out

Call KB4LJV Op james Az

CW 3000 Qth mason tn St Pr Loc

Loaded logbook: C:/Documents and Settings/user1/fldigi.files/logs/logbook.adi
1 records in 0.00 seconds

E I E
 <<2016-03-14T07:21Z CW @ 7080+2444>>
 R THE CHAT T S3 AND G MD BLESS <SK> KN8L DE K8T IT EE I E CQ DE N5 DY N5 D Y N5 D Y U * DE WB66E WBT SE <AR> RR WB6 BEE DE N5 D N
 EE T AR RST 5 N N 5 N N <BT> WE H* A NICE SGRING D* HR, UNNY ES TE* IN **<BT> *? WB6BEE DE N5 DY K * JA* N5DY DE W B6BEE **Y
 U*<KN> **NITE<BT> *10 * O* <BT> <BT> FB ON *** D*<BT> 5RE P *DA CHPGE * RLN *T *T* SH* *<BT> *T 4M TE ** PS A *NC H *

cq cq cq kb4ljv

CQ 3.0 Clear

CQ ANS QSO KN SK Me/Qth Brag T/R Tx Rx TX 1

500 1000 1500 2000 2500 3000 3500

WF -20 70 x1 NORM 1080 QSY Store Lk Rv T/R

CW Rx 23 18 -3.0 AFC SQL KPSQL

Delta Ham License Training 2016

Submitted by Joe Lowenthal, WA4OVO

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.

Licenses Earned in 2016 from Delta Classes

7 Technician
3 General
5 Extra

If you are interested in attending a training class, send an email to Joe Lowenthal at wa4ovo@gmail.com with the desired class name in the subject line, along with your name, email address and (cell) phone number in the text.

Current Classes

General Class 2-16: February 27 - April 9, 2016

This General class began on February 27th and will run for six Saturdays from 9am to 1pm at EMHC ambulance company's training room, 6972 Appling Farms Parkway. There are three students in the class -- Scott Adams, KM4PMU, Jim Barnes, N4YOK, and Clay Hancock, KD4VXN. Testing will be conducted at FreeFest on April 9th. The instructors are Joe Lowenthal, WA4OVO, Pat Lane, W4OQG, and Jack Moody, KW4RH (formerly KK4VPY). The Elmer is Mike Sparks, KW4RI (formerly KK4VPZ).



In General Class 2-16 Pat, W4OQG, demonstrates the oscilloscope and TDR with (left to right) Clay Hancock, KD4VXN, Jim Barnes, N5YOK, and Scott Adams, KK4PMU. Photo by Joe Lowenthal, WA4OVO.

Classes Completed

Technician Class 3-16: February 22 - April 4, 2016

This Technician class began on February 22nd and ran for six Monday nights from 6:15 pm to 9:30pm at EMHC ambulance company's training room, 6972 Appling Farms Parkway. Seven students completed the class. Congratulations to James Barnes, KM4STF, Linda Griffin, KM4STI, Cullen Powell, KM4STJ, and Joshua Tribble, KM4STH, who earned their Technician licenses. Double congratulations to Randy Collins, KM4STE, and Jerry Lane, KM4STG, who earned both their Technician and General licenses. And triple congratulations to Justin Wright, KW4SX, for earning his Technician, General and Extra Class licenses.

The instructors were Joe Lowenthal, WA4OVO, Pat Lane, W4OQG, and Bob Vawter, KM4RJ. The class Elmer was Len Grice, KM4MRY. The WCARS VE team of Gary Weatherford, N4EMA, Ham Hilliard, W4GMM, Rosalinda Melena, WN2V, Steve Smith, W5VAA, Linda Laseter, KJ4CTX, and Ken Laseter, KI4AOH, provided the FCC testing opportunity on the fifth night of class. On the sixth night of class the equipment demonstrators were Michael Knight, KK4IOH, on digital modes of Allstar, Echolink, D-Star, Fusion, and DMR; Joe Lowenthal, WA4OVO, on APRS, and Pat Lane, W4OQG, on HF, Winlink and MARS. Rick Tillman, WA4NVM, provided a satellite demonstration on March 7th.



Joe, WA4OVO, congratulating Justin Wright, KW4SX, on earning all three licenses in one testing session. Photo by Len Grice, KM4WRY.



Tech Class 3-16 with Bob Vawter, KW4RJ, providing instruction. Photo by Len Grice, KM4MRY.



Tech Class 3-16 satellite demonstration by Rick, WA4NVM. Photo by Len Grice, KM4MRY.

Classes Planned

Tech Class 4-16 will start either June 30th or July 7th for six sessions on Thursday nights from 6:15-9:30pm until August 11th or 18th. . Please contact Joe Lowenthal, WA4OVO, if you are interested in attending this class.

You may want to do some pre-study by going to www.KEOOG.net The right side has links to Technician, General and Extra Class YouTube video training.

Alternative approach: If you want to check on class availability and/or to register for a future training class, go to www.deltaclub.org and click on the link under Training – registration form will guide you through needed information, and an email will be automatically sent.

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

New Net Manager for Delta Club's Information Net

Submitted by Joe Lowenthal, WA4OVO

Danny Banks, KJ4FXZ, is now the Delta Club Information Net manger. He will be coordinating the net control operators and alternate operators. If you want to volunteer to be a net control operator or an alternate net control operator, contact Danny at dbanksd@bellsouth.net or talk with him after a net.

A net control operator agrees to call the net on a specific night of the week, or a specific night of the week in the month. An alternate net control operator will pick up a night when one of the net control operators cannot call the net.

We want to thank Phil Fentress, AK4UE, for his service as Net Manager during the last year.

Huntsville Hamfest Bus Trip -- August 20, 2016

Submitted by Joe Lowenthal, WA4OVO

DARC is sponsoring a 50-passenger bus trip to go to the Huntsville Hamfest on August 20, 2016. There is a graduated scale fare for the bus trip. The fare is \$55 if paid by May 31, 2016. The fare is \$65 if paid by June 30, 2016, and \$75 if paid after June 30th. The fare includes the \$8 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.

If you drive to Huntsville, you'll pay about \$33 for gas, \$8 for the hamfest ticket, \$5 for parking, about \$10 for breakfast en route, and probably more than \$10 for dinner on the way back. Not only is that more than the ticket price through the end of June, but you can sleep on the way back, an endeavor frowned upon if you're driving.

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, callsign, cell phone number, and email address. **Reservations will be on a first come, first paid basis.**

The bus will leave Ellendale Church of Christ, 7365 Highway 70, Bartlett, TN, at 6:00am on August 20th. A second pickup point will be at Germantown Baptist Church, 9450 Poplar Avenue at Johnson Road, Germantown, TN, at approximately 6:30am. The bus will leave Huntsville immediately after the 4pm door prize drawing and return to Germantown Baptist Church approximately 7:30pm and Ellendale Church of Christ at approximately 8:15pm.

Ellendale Church of Christ has asked us to park in the larger parking lot on the west side of the building to leave the east side open for church activity parking. The pickup point at Germantown Baptist Church will be on the east side of the church (toward Collierville) just north of the baseball diamonds and south of the gym (called the CORE) between the gym and the baseball diamonds to the front.

Last Month's Program

Submitted by Dan Lasley, NE7JN, contributions by Larry May, K4QZF

Larry May, K4QZF, presented the March program on Logbook of The World (LoTW). He explained that LoTW is the ARRL's computer-based, secure process for confirming QSOs. The price is very good: it's free to amateurs world wide. In terms of confirming QSOs for awards, LoTW and QSL cards are equivalent, and either or both may be used for ARRL awards. Security is guaranteed through electronic certificates and the use of public/private encryption keys.

Larry told us the LoTW software is called Trusted QSL (TQSL) and is neither difficult nor time consuming to set up. He provided a link to [download and install TQSL](#). You will find a Release Notes file at the same URL.

Like many hams, I've read QST articles on LoTW, but prior to Larry's program, I had at least as many questions as answers, and some of the statements that I had read or heard about LoTW were wrong. For example, as Larry pointed out in about six different ways, there are no fees to use LoTW. This was quite important, as a ham who decides to earn the Worked All States certificate will spend at least \$50 (and likely more) to obtain a QSL card from each state. Keep in mind that the ARRL charges a small fee for awards, irrespective of the manner in which QSOs are confirmed.

In subsequent discussions with Larry, he said he uses PSK31 for most of his contacts (the majority of which are DX) and his rate of confirmed QSOs with LoTW is 38%, but unlike QSL card confirmations, each LoTW confirmation is free.

Thanks, Larry, for an excellent presentation.



Photo by Dan Lasley, NE7JN

Remembering the *Sultana*

Submitted by Rosalinda Melena, WN2V

As part of the Marion, Arkansas, [Inaugural Sultana Heritage Festival](#) (see the link for more details), an Amateur Radio Special Event Station, N2S, will be on the air from 9.00 a.m. to about 3.00 p.m. CDT on Saturday, April 30. With thanks to the Delta Amateur Radio Club for the use of the 146.82 repeater, the group will operate 2M (146.82), 6M (50.140), 15M (21.360), 20M (14.270), 40M (7.235) and even some Satellite activity. It'll be a great event so check-in or come by the station and join in the fun! QSL cards will be available.

Search for Special Events Stations

Modify Search:

Call Sign:

Keyword:

ZIP Code:

City:

State:

04/30/2016 | Remembering the Sultana
Apr 30, 1400Z-2000Z, N2S, Marion, AR. Sultana Disaster Museum. 50.140 21.360 14.270 7.235. QSL. R. Melena, WN2V, 6631 Vallendar Cv, Memphis, TN 38135. We will operate from 0900 CDT to 1500 CDT on April 30, 2016. Remembering Sultana On April 27, 1865, towards the end of the Civil War, the steamboat Sultana exploded and sank while traveling up the Mississippi River, killing an estimated 1,700 people. The event remains the worst maritime disaster in US history (the sinking of the Titanic claimed 1,512 souls). Although this disaster took a huge toll, few know the story of the Sultana's sinking.

Note: go [here](#) to search for other Special Event stations and don't forget about information at qrz.com once you find one.



March of Dimes March for Babies -- Volunteers Needed

Submitted by Linda Laseter, KJ4CTX

We still need a few more ham volunteers for the annual March of Dimes March for Babies event that is being held at the Botanic Gardens again this year due to the on-going construction in Shelby Farms.

The walk will not be on the streets this year. Walkers will be confined to a 2.5 mile walk inside the Botanic Gardens that should be very pleasant for all those participating in the march as well as the volunteers supporting the event.

This is an easy event to work. We are typically finished by noon leaving everyone the rest of the day for other activities. Last but not least, there will be entertainment and plenty of food for all!

When: Saturday, April 30, 2016
Time: 7:30 a.m. till Noon
Where: Memphis Botanic Gardens
750 Cherry Road
Memphis, Tennessee
Equipment needed: HT with 2 meter, 440 capability

Repeater: We will be using the 443.20 or the 146.85 repeater the day of the event.

Radio Settings:

Primary Delta Club Repeater	Secondary Tri-State Repeater
Repeater Frequency: 443.200	Repeater Frequency: 146.85
Offset Direction: + (plus)	Offset Direction: - (minus)
Tone Frequency: 107.2	Tone Frequency: 107.2
Offset Frequency: 5.00 MHz	Offset Frequency: 0.60 MHz (600 KHz)

We thank the Tri-State Repeater Association for the use of their repeater for this event. Delta's 146.82 repeater is being used for another event on April 30th.

If you would like to volunteer, please contact Linda Laseter at LindaLaseter@gmail.com or (901) 268-1766 or sign up at the April Delta Club meeting.

**J Pole Antenna Class to be offered by
Mid-South Amateur Radio Supply**

Submitted by Ham Hilliard, W4GMM



Mid-South Amateur Radio Supply will conduct a **J Pole Antenna Class** on Saturday, April 23, 2016, at 1:00 p.m. at 6631 Vallendar Cove, Bartlett, Tennessee, 38135.

The cost of the class is \$30.00; all materials will be provided. Each registered student will take home an antenna that will work 144 to 148 MHz and the 440 MHz band as well.

To be assured a seat in this class, limited to 12, you must sign up and make arrangements to pay prior to the class date. Materials will only be purchased for those who arrange payment by that date.

A sign-up sheet will be available at the Delta Club meeting, Tuesday, April 12, 2016. You may also register by sending an email with your name and telephone number and valid email address to w4gmm@bellsouth.net. You must pay at the meeting or make arrangements to pay later.

If you have any questions contact Ham at 901- 387-9051 or w4gmm@bellsouth.net.

Ham Questions 101 -- Coming in May, watch for us!

Submitted by Linda Laseter, KJ4CTX

Join us for an exciting new opportunity! Starting in May Delta Club will be offering a question and answer session each month before the regularly scheduled meeting. Elmers (experienced hams) will be available from 6:00 p.m. till 6:45 p.m. to answer questions and cover topics of interest. Come for one session or come every month. This is an open forum. No textbook, no set number of sessions to attend. Just bring those questions you would like answers to!

The sessions will be free and open to all hams (technicians, generals, and extra class). For more information, please email Linda Laseter, KJ4CTX, at LindaLaseter@gmail.com or Dan Lasley, NE7JN, at sparks@carbheat.net.

2016 FreeFest

Submitted by Dan Lasley, NE7JN

If you are in the habit of reading Sparks when it arrives in your email in-box, this month you will have plenty of time to get ready for 2016 [FreeFest!](#)

What is FreeFest? It's a hamfest sponsored by [Mid-South Amateur Radio Association](#) (MARA). It will be in operation from 9:00 AM to 3:00 PM on Saturday, April 9, 2016.

What's free about FreeFest? Admission and just about everything else except for concessions and additional raffle tickets. Even the first raffle ticket is free!

Where is it? 5868 Stage Road in Bartlett, just east of the railroad tracks. Parking (also free) is in the large parking lot west of Walgreens, then walk across the small bridge and look for crowds entering the building. The FreeFest link has a map in case you haven't been there before. The talk-in frequency is 147.03 MHz with a PL tone of 107.2 and a +600 KHz offset.

What will I see at FreeFest? The better question is what won't you see! You'll find ham equipment vendors large and small, individuals selling nearly anything you can imagine that's ham related and some things that aren't ham related (check out the Aim Light table!). Most of the action takes place inside, but with the cooperation of the good-weather gods, some vendors will be outside as well.

What else is going on at FreeFest? If all of the above still leaves you wanting, you can pass your first ham license or upgrade an existing license in the morning and attend a seminar in the afternoon. DON'T MISS the concession stand! If that's still not enough, check out the FreeFest [web site](#) for some great prizes. Although you don't have to be a ham to be a prize winner, the youngest ham attending FreeFest will go home with his or her own drone.

What else should I know? 100% of raffle ticket proceeds go to [Le Bonheur Children's Hospital](#), a leader in pediatric medicine.

Really, 100%? Yes, 100%. It's MARA's way of giving back to the community. Enough said.

Equipment for Sale

Submitted by Bill Stevens, WC9S

Most of the equipment listed below is from the estate of Jimmy Rye, Jr., KG4TKY. This equipment will be available for sale at FreeFest on Saturday, April 9. Any unsold equipment and any equipment left over from the last sale will be available for sale at April's Delta club meeting.

Jimmy Rye Jr KG4TKY Estate	
Tentec Orion II HF transceiver #566	\$2,000.00
Tentec Titan III Linear Amp #417 10 & 12 meter option	\$2,150.00
Tentec Antenna Tuner #238b	\$350.00
Tentec External Speaker #307	\$75.00
Tentec Power Supply #963	\$80.00
TenTec Encoder/Keypad #302	\$75.00
TenTec Desk Mic. By Heil	\$100.00
Icom IC-7000 all mode mobile transceiver	\$750.00
Icom IC-T90a HT 6, 2, 440	\$75.00
Kenwood TH-78a HT dual band with mic	\$40.00
Kenwood TR-2500 HT 2 meter with desk charger	\$25.00
Kenwood TM 732a mobil 2 meter, 440	\$140.00
Drake UV-3 KM Transceiver & Drake PS-3 Power Supply	\$500.00
Heil Gold Line desk mic.	\$100.00
Miscellaneous Antennas	
Tentec receiver kit #1254	\$100.00
Tentec QRP 40 meter CW transceiver kit	\$60.00
Tentec 2 meter FM transceiver kit	\$100.00
Left over from last sale	
Ameritron AL-811H Amplifier + Interface Buffer	\$525.00
MFJ-267 Dummy Load / Watt meter	\$80.00
MFJ-986 Differential-T tuner	\$150.00

The ham community extends its sympathies to the family of KG4TKY.

The Lancaster/Marston Corner

Submitted by Dan Lasley, NE7JN

The Lancaster/Marston Corner refers to the works of Don Lancaster and Ray Marston, both of whom published extensively in various electronics magazines and in other publications. This column will cover wide-ranging topics in electronics but won't be limited to Lancaster and Marston; we'll cover other authors as well.

In last month's [Sparks](#), I presented 40 topics that Ray Marston had written about in Radio-Electronics and Electronics Now magazines. This month I want to talk about operational amplifiers, abbreviated as "op-amps." Just what the heck is an op-amp? The grand old master of analog digital design, Robert Pease, defined it simply and succinctly:

"An operational amplifier is called that because it can perform just about any operation according to what feedback components you put around it."

In part one of his Op-Amp Cookbook series (more on that below), Ray Marston said op-amps "... can be used to make precision AC and DC amplifiers and filters, oscillators, level switches, and comparators, etc." Marston summarizes the functionality of op-amps perhaps a bit too briefly, as they also serve as the basis of adders, subtractors, integrators, differentiators, and probably dozens of other building blocks as well.

I looked at fifteen different on-line op-am tutorials and selected three for this month's column. The tutorials range from entry level to intermediate to advanced. Let's look at the [entry level](#) tutorial first. If you are curious about op amps but are just beginning to learn about them, I suggest you skip the frequency response and bandwidth sections and read through each of the dozen op-amp tutorials at this site.

If you've had some experience with op-amps, see part one of Ray Marston's [Op-Amp Cookbook](#) series. Marston covers well a wide variety of op-amp circuits. Don't miss [part two](#), [part three](#), or [part four](#). Each is well written and loaded with op-amp circuits.

If you are interested in reading an advanced description of the care and feeding of op-amps, see ["Op Amps For Everyone"](#). Written by professionals at Texas Instruments, this free 464-page book is a treasure trove of information on designing op-amp circuits. It's not for the faint of heart, but you don't have to be a rocket scientist to pick up valuable insights into op-amp design.

Next month I'll cover a book by Joseph J. "Joe" Carr, K4IPV (SK). The book is "Mastering Oscillator Circuits Through Projects & Experiments" and is available from the public library, call number 621.381533 C311m.

What's Cooking?

Submitted by Dan Lasley, NE7JN

I was sorting through some old [Arizona Highways](#) magazines recently and found a recipe for Rattlesnake Chili in the January, 1994, issue. This recipe is by Patricia Myers, food editor for the Arizona Republic-Phoenix Gazette newspapers. The magazine article "... guarantees that her recipe will toughen anyone's hide." We'll see!

Rattlesnake Chili

1 to 2 pounds ground rattlesnake, armadillo, chicken, or turkey
1 medium onion, chopped
3 cloves garlic, minced
2 6-ounce cans tomato puree
1 tablespoon ground cumin
1/2 12-ounce can beer
2 4-ounce cans diced green chiles
4 tablespoons ground red chiles or chili powder
Salt and pepper to taste
Optional: 2 16-ounce cans pinto beans

In a skillet, brown choice of ground meat with onion and garlic. Put in a large pot or electric slow-cooker, adding remaining ingredients. In a pot, bring to a boil, then reduce heat and simmer 45 minutes to an hour. In a slow-cooker, on low setting, cook six hours or overnight. Serves 6.

Sadly, I was completely out of ground rattlesnake today so I substituted a bit over two pounds of chopped-up skinless chicken thigh fillets with the fat removed. I'm not a fan of garlic, as most dishes have much more than I care for, so I omitted garlic. I'm not opposed to beans or beer in chili but I used neither in my first attempt at this recipe. I followed the remainder of the recipe closely with one exception.

Those of you who have been reading this column know I have a secret ingredient for most of my cooking: lots and lots of jalapeno peppers! Given the Southwestern nature of this month's recipe, I added a 7.5 ounce can of [chilpotle](#) peppers, chopped up.

I have tried *many* chili recipes over the years; they covered the gamut of the good, the bad, and the ugly. Ms. Myers, your recipe didn't toughen my hide, even with the added chilpotle peppers, but it's the best chili I've ever made!

DX News

Submitted by Dan Lasley, NE7JN

In *DX News* I'll relay information for those of you who like to work DX. Most of this information is a digest of emails from the ARRL DX Bulletin, the ARRL Contest Update, and the ARRL Letter. Yes, some of it may be a bit cryptic. No, it isn't rocket science. If you're interested but don't understand the terminology, ask a ham friend who works DX.

While we aren't on the best part of the sunspot cycle for working DX, that doesn't mean DX doesn't exist, even on 10 meters. Most of my recent 10 meter contacts have been in call districts 6 and 7 and in Central and South America. I recently worked OE3DIA in Austria on 17 meters with a signal so strong he could have been around the corner rather than 5,105 miles away. I made this contact with 100 watts on a 40 meter wire dipole about 21 feet off the ground. When propagation conditions are good, you don't need a kilowatt, a tower, or a four-element beam!

Here are a few DX targets. The [VKOEK](#) link below is amazingly detailed and very useful.

HEARD ISLAND, VK0. A large group of operators will be QRV as [VKOEK](#) from March 20 to April 10. Activity will be on 160 to 10 meters using CW, SSB and RTTY. QSL via MOURX. [Club Log](#) reports Heard Island is the fifth most wanted entity on their [DXCC Most Wanted List](#).

BAHRAIN, A9. Special event call sign A911ORR is QRV until the end of the year to celebrate the 110th anniversary of the ITU Radio Regulations. QSL direct via A92AA.

EUROPEAN RUSSIA, UA. Special event station R100IA celebrates the 100th anniversary of the Russian air force and air traffic control. QSL via RZ5D. [Dates of the event not given.]

The [ARRL National Parks on the Air](#) event runs during all of 2016 to mark the 100th anniversary of the National Park Service.

Special event stations in Russia will be on the air from March 16 until June 16 and will provide awards and certificates. Each RT73-prefix station represents a historical figure in the area of telecommunications or electronics.

A recent ARRL Contest Update provided the quote in the following paragraph. "RF quiet" information is important because if you have a lot of QRM generated inside your QTH, you won't work'em if you can't hear'em!

"Tony, N2TK, found better basement lighting performance after replacing his fluorescent shop lights with Commercial Electric #54103161 35 W, 3200 Lumen LED fixtures from Home Depot. Each fixture cost about \$40 in his area. Besides more light output than the two-tube T12 fixtures they were replacing, they were also RF quiet as indicated on his Elecraft P3. He also was "inspired" to replace 400 W of incandescent lighting in his garage. Four of the newer LED fixtures supply more light than his old setup, with a net savings of 260 W."

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

An alternative email address to offer the Board your suggestions, ask questions, and voice complaints is darc4you@gmail.com.

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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Board members beginning their positions in 2016 are listed in red.

Future Public Service Events

If you are a coordinator for any of these events, please review the listed information. If it is incorrect or changes need to be made, please email corrections to sparks@carbheat.net.

<u>DATE EVENT</u>	<u>PUBLIC SERVICE EVENT</u>	<u>CONTACT INFORMATION</u>
April 30, 2016	<u>March for Babies</u> March of Dimes fundraising event: walk around Memphis Botanical Gardens	Linda Laseter, KJ4CTX lindalasete@gmail.com
June 4, 2016	<u>Diabetes Tour de Cure</u> Start on Mud Island and ride thru Shelby Forest	Pat Lane, W4OQG w4oqg@bellsouth.net
Sept. 2016	2016 Bike MS: FedEx Rock-N-Roll Landers Center in Southaven to Gold Strike Casino in Tunica and back on 2 nd day; Multiple Sclerosis fundraising event	Darrell Sheffield, KK4D darrell.sheffield@memphistn.gov (901) 277-8122
Dec. 3, 2016	St. Jude Marathon 26.2 mile fund raiser in downtown Memphis	Roger Schlichter, WR4R wr4r@bellsouth.net

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:

<http://www.tn.gov/revenue/article/emergency-safety>

The application can be found at this link:

<http://www.tn.gov/assets/entities/revenue/attachments/f1312601Fill-in.pdf>

Other Notes of Possible Interest

Submitted by David Webb, KV4QI

It's Time to Renew Your 2016 Annual Memberships! Download the latest Delta Club [Membership Application Form](#). Thanks for Your Active Support of Delta Amateur Radio Club!

Memphis Area VHF/UHF Nets

Updated Nov, 2015

Name of Net	Freq. MHz	Tone	Local Time	Day of Week
Delta Club Information Net	146.820	- (107.2)	8:00p	Daily
Mid-South Barefooted Bullfrog Net	146.535		7:30p	Daily
Secret Service Net	224.780		8:30p	Mon
Elmer Net	145.210	- (107.2)	9:00p	Mon
The Short Winded Net	146.850	- (107.2)	8:30p	Tue
MedMERS Net	146.820	- (107.2)	12:00p	Wed
CERTPlus Net	443.200	+ (107.2)	8:30p	Wed
ARES Training Net	146.880	- (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 December, 2015

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 (Center for United States Earthquake Consortium)	3.810		As needed
CUSEC (Center for United States Earthquake Consortium)	7.180		As needed

3980 kHz – TN 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

See Advertisement Order Form for Instructions.



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Wire	Swivel Ball	RCA	Rotor Cable

LDG Electronics	Accessories	Miscellaneous
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Ununs	Mic Holders	Dog Bone Insulators

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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*.

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

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See Advertisement Order Form for Instructions.

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P.O. Box 342768
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DARC Meeting: Second
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We offer our continued thanks to EMHC ambulance company for generously providing their training room for the many ham radio classes given there.

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Sparks Advertising Order Form**

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1. Mark the box below indicating the ad size you are purchasing and the months you want your ad to appear in Sparks.
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Make check payable to Delta Amateur Radio Club (DARC) at monthly Delta Club meeting, or send US Mail to club mailing address at P.O. Box 432768, Memphis, TN 38134-2768. Camera ready means that ad copy is exactly as you wish it to appear, scaled to fit within the dimensions specified below. Ads may be submitted in .gif or .jpg format, or submitted as a hard copy (we will scan and place your ad for you).
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