

SPARKS

P.O. Box 342768 * Memphis, Tennessee 38134-2768 * Volume 23 * January 2017



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}

144.390 Digipeater

This month's meeting begins at 7pm on January 10, 2017, at Ellendale Church of Christ, 7365 Highway 70 Memphis, TN (1 ½ miles north of Highway 64 (Stage Road)).

In this month's program we welcome Kevin Zent, K4KLZ. Kevin is the newly elected Director of Programs at the Delta Club. Kevin was first licensed in December of 2015 and holds a General class ticket. Kevin served 14 years in the U.S. Navy as an Aircraft Structural Mechanic and later an Anti-Submarine Warfare Technician. Since his discharge in 1989 Kevin has worked in computer and network support and is now the Senior Computer Engineer at Insight Direct where he supports Hilton Hotels computer systems. Kevin is active on 2 meters, EchoLink, and just has recently started with PSK31.

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 2017 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:Jeff.Krause@AJ4GY.com), or call at 901-301-6776.

President's Corner

Submitted by Ken Laseter, KI4AOH

HAPPY NEW YEAR!

I sincerely hope this year brings health, happiness, and prosperity to you and your families.

Let me take this opportunity to thank all of you for your support this past year. I could not have survived as president without your help and support. I am looking forward to this year and believe 2017 will be another good year for the Delta Amateur Radio Club.

As many of you know the annual Swamp Stompers ultra-marathon is scheduled, this year, on Sunday January 15th at the Meeman Shelby Forest State Park. We may still need a few volunteers. If you are interested, please contact [Keith Barton](#), KT4EP, at and let him know. He will email you an information pack with all the details.

As always, please don't forget to check into the Delta Club 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 of our most valuable assets!

If you have not renewed your club membership now is the time. I think we still have some members that are procrastinating or have forgotten. Linda, KJ4CTX, will be glad to accept your renewal application and cash, check or money order, either at a club meeting or via snail mail.

See you at the meeting Tuesday night!

Thanks so much, 73

Kenneth Laseter, KI4AOH

Treasurer's Report
Submitted by Linda Laseter, KJ4CTX

DELTA AMATEUR RADIO CLUB
Monthly Treasurer's Report
For month ended December 31, 2016
Submitted by Linda Laseter KJ4CTX Treasurer

CHECKING ACCOUNT

BEGINNING BALANCE		
BEGINNING BALANCE	as December 1, 2016	\$ 9,299.42

INCOME			
Date	Description	Amount	
12/08/16	Membership dues 2017	\$ 40.00	
12/08/16	Griffin equipment sales	\$ 80.00	
12/15/16	Griffin equipment sales	\$ 30.00	
12/16/16	Membership dues 2017	\$ 195.00	
12/16/16	Cashed in Patriot CD	\$ 5,075.44	
TOTAL INCOME		<u>\$ 5,420.44</u>	\$ 5,420.44

EXPENSES				
Date	Check #	To	Description	Amount
12/06/16	1399	Linda Laseter	Door prizes - Nov	\$ (60.00)
12/06/16	1400	Linda Laseter	Door prizes - Dec	\$ (53.51)
12/07/16	1401	Ellendale Church	Donation	\$ (200.00)
12/13/16	1402	Linda Laseter	Door prizes - Dec	\$ (63.99)
12/08/16	1403	Ken Laseter	Certificates and frames	\$ (136.61)
12/13/16	1404	Tom Raggett	Hams Dec dinner meeting	\$ (35.48)
12/16/16		Regions Bank	Transfer for CD	\$ (10,000.00)
TOTAL EXPENSES				<u>\$ (10,549.59)</u> \$ (10,549.59)

ENDING BALANCE	as of December 31, 2016	\$ <u>4,170.27</u>
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CERTIFICATES OF DEPOSIT			
	Maturity Date	Balance as of	
Certificate of Deposit #1	10/10/2018	10/13/2016	\$ 10,405.23
Certificate of Deposit #2	10/19/2022	12/16/2016	\$ 10,000.00

TOTAL DARC CASH ASSETS		<u>\$ 24,575.50</u>
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This Month's Board Meeting Minutes

January 3, 2017 -- Submitted by Barri Munday, WB4SWP

Attendees: Bill Stevens, WC9S, Steve Frazier, KK4VPT, Dan Lasley, NE7JN, Ken Laseter, KI4AOH, Linda Laseter, KJ4CTX, Joe Lowenthal, WA4OVO, Scott Adams, KM4PMU. Barri Munday, WB4SWP, former board member Jim Cissell, KI4I, and Len Grice, W4MKS. Kevin Zent, K4KLZ, was absent.

Ken called the meeting to order at 7pm.

Linda presented the club's 2017 budget, followed by a line-by-line discussion. After Linda made several minor adjustments, Joe moved to accept the budget, seconded by Len.

Barri mentioned the Swamp Stompers event, which is scheduled for January 15, 2017. See the "2017 Swamp Stompers Event" article below.

Kevin, the new program director, will present the first program of the year.

Joe has an Extra class scheduled at the EMHC beginning on January 7 for six weeks, excluding January 28th due to the Jackson, MS, hamfest. He also has a Tech class which is scheduled to run from February 25th through April 15th, excluding April 8th (Memphis Freefest) and March 11th.

The meeting adjourned at 8:15pm after a motion by Bill and a second by Linda.

Minutes of Last Month's Club Meeting

December 13, 2016 – Submitted by Barri Munday, WB4SWP

Delta Club President Ken Laseter, KI4AOH, called the meeting to order at 7:00 pm and asked everyone to introduce themselves by name and call sign.

Ham Hilliard, W4GMM, moved to accept the meeting minutes as published in Sparks, seconded by Ned Savage, KA4BLL.

Ham Hilliard moved to accept the Treasurer's report as published in Sparks, seconded by Stacey Krause, KJ4MDA.

Keith Barton, KT4EP, reminded everyone of the Swamp Stompers event at Meeman Shelby Forest on January 15th and asked for volunteers.

Pat Lane, W4OQG, was named Ham of the Year and also received a certificate for new ham training.

Len Grice, W4MKS, was named New Ham of the Year for his work as the club's Public Information Officer.

The formal meeting was adjourned and members and their families enjoyed a wonderful dinner.

In Memoriam



One of my ham friends, 81 years young, left us and went to his reward on December 1, 2016. Bob Gruner, W4UFT, had COPD, emphysema, diabetes, a heart condition, and possibly other maladies. You'd never know any of that by being around him. Bob was too full of life to complain. Bob leaves Carolyn, a sweet and caring lady who was his wife of 40 years.

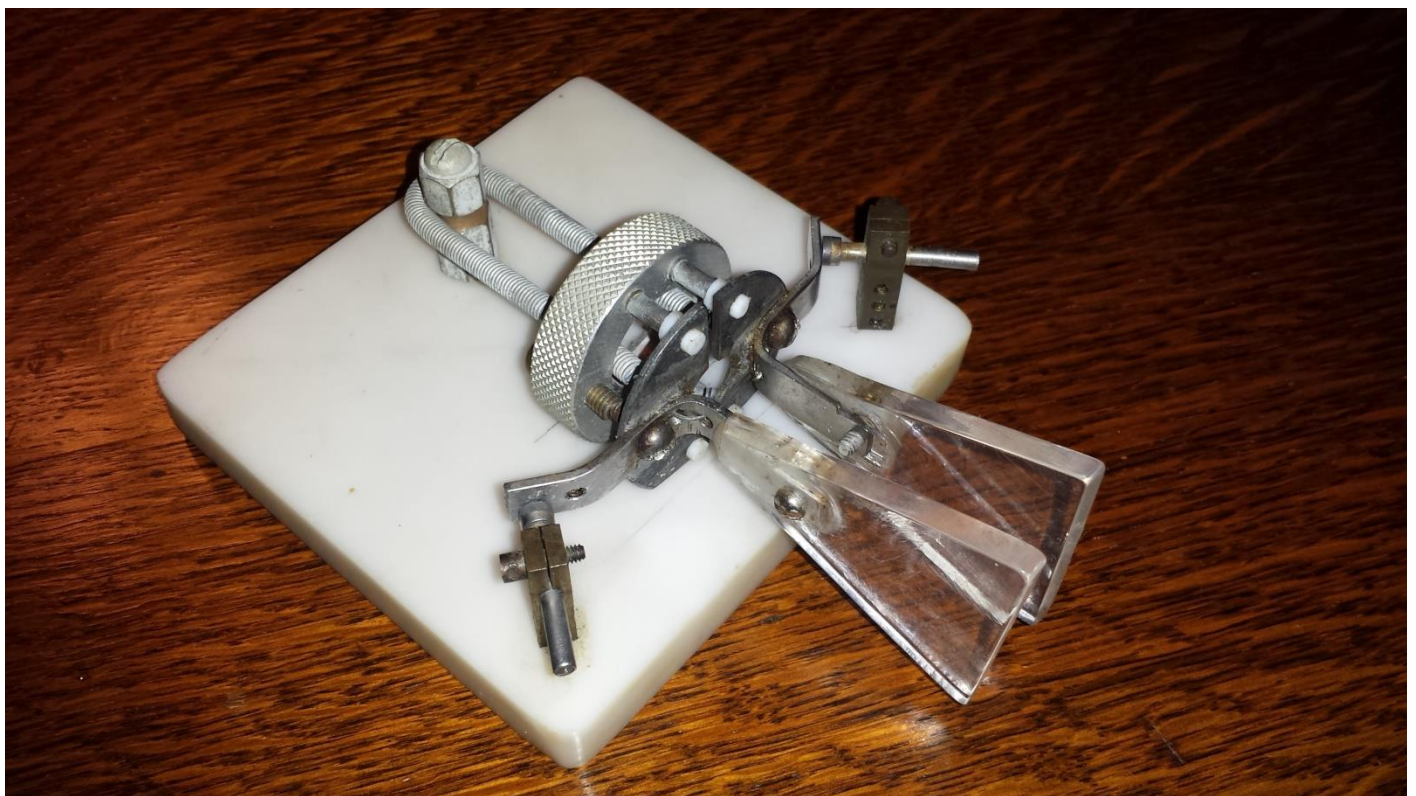


A group of CW ops

Until he went into the hospital for the last time, Bob was famous for emailing goofy (but cleverly done) photos and animated cartoons that had images of several of us who are in a daily 40 meter group. In this image, Bob replaced the faces of the original participants (Pat Lane, Dick Barnes, Emory Gordy (husband of Patty Loveless) and Nina Stone in the background) with four copies of Jim Cissell, KI4I.

At one point in his career, Bob was a telegrapher for Western Union. Several hams have told me that he could have a 55 word per minute Morse code conversation with one person and talk to

another person at the same time. That is amazing! How many of us in the ham community have that ability?



Recently Joe Wray, WD4GX1, showed me a paddle that Bob made. It looks and feels like a [Bencher](#). I couldn't believe how nice it looked or how good an action it had!



Bob built more than paddles. Jim, KI4I, said of Bob: "Bob was quite a craftsman. He was also into horses, sailing, computers and building of whatever he needed and didn't already have. Although he couldn't play it, Bob built a beautiful 10-string pedal steel guitar and case. He loved to listen to steel guitar music. He still had the Commodore computers that he learned on. He was a wiz on PCs and enjoyed using them. I would email Bob a photo only to have him shoot it back with some silly animation to it."

Bob wrote an [article](#) entitled "Perfect Parabolas -- use some solar technology on your next dish antenna." It was published in the April, 1981, issue of *73 Magazine*.

In the summer 40M doldrums, Bob often joked that his QTH in Munford was DX to those of us who were one county away in the Memphis area!

I'd like to think Bob would have appreciated the fact that his pallbearers were an all-ham crew: Art Barnett, WA4PSS, Tony Brignole, WA4KHN, Jim Cissell, KI4I, Tom Dichiaro, AC5MR, Dennis Foster, KJ4BDU, and Dan Lasley, NE7JN.

You were a good friend, Bob, a gentleman, a scholar, and a man of many accomplishments. We miss you.

Submitted by Dan Lasley, NE7JN, with the grateful acknowledgement of memories and photos by Art Barnett, WA4PSS, Jim Cissell, KI4I, Larry May, K4QZF, Pat Lane, W4OQG, and Joe Wray, WD4GXI.

In Memoriam



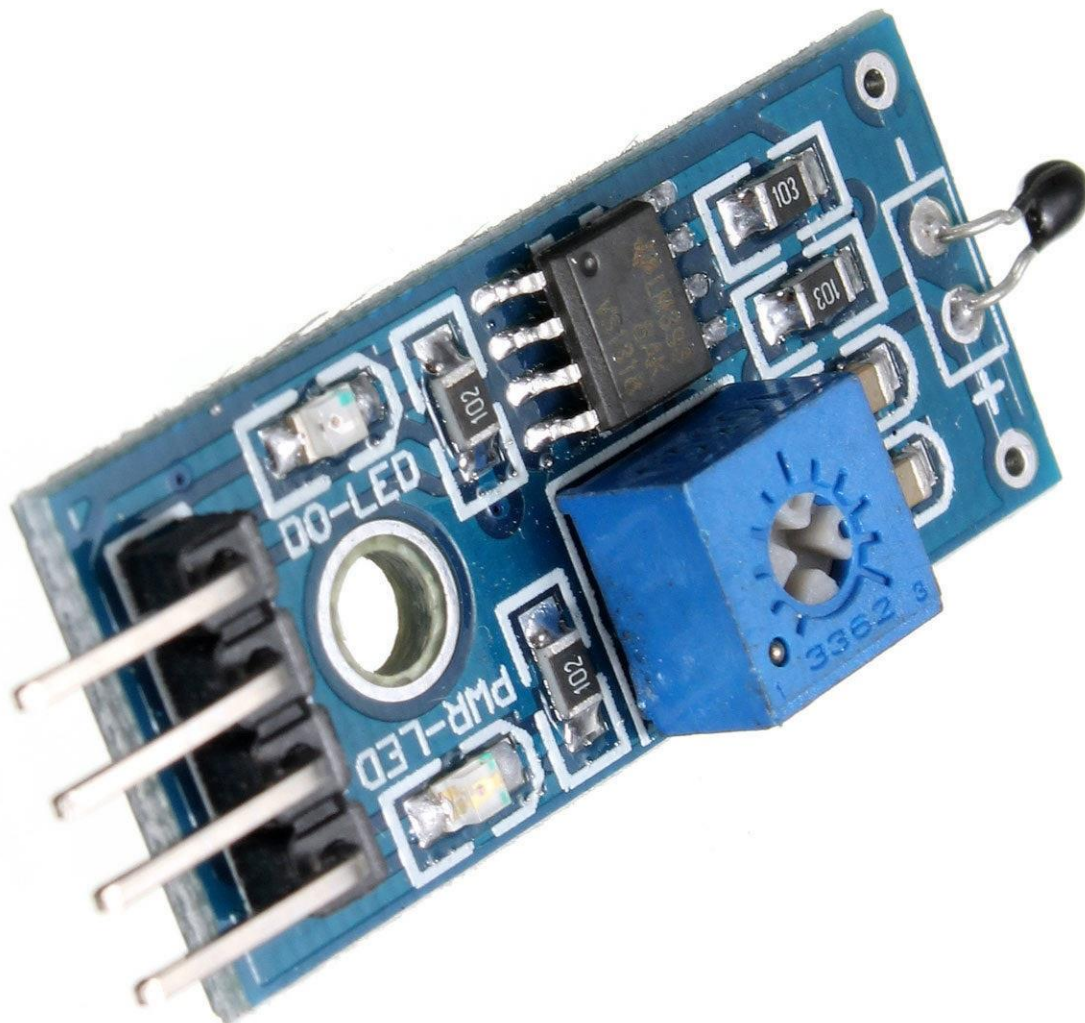
It is with sadness we acknowledge and send our condolences to the family of Brandon Perry, KJ4FYD. Brandon earned his Technician license with his dad, David, AJ4KF, and younger brother Nicholas, KJ4FYE, in Tech Class 6-08 in August, 2008. The Delta Club Technician class was held at the Collierville Police Department training room.

Submitted by Joe Lowenthal, WA4OVO

Amateur Hardware Update

Article and image submitted by James Butler, KB4LJV

One thing we need to watch for when operating equipment is heat. We need to monitor the temperature of our equipment and detect problems before they cause damage. One nice universal circuit for monitoring temperature is available on [Ebay](#). The small PC board is pre-built and has an on board temperature sensor. The outputs of the board are an analog signal level that changes with temperature to feed to a computer and also an OFF/ON digital output to turn on a relay at a certain temperature. The set point for the turn on is a variable resistor on the board. This has lots of temperature control applications. The best part is the price of the sensor of under \$2.00. Search for "arduino temperature sensor" on Ebay.



Amateur Packet Update

Submitted by James Butler, KB4LJV

Many times we want to be able to provide radio communications during power emergencies. These emergencies can damage the power grid we normally use to power our electronics devices including our radios. The ARRL has a book out to help in setting up an emergency power system during these times. The book helps with solar power options, generators, batteries, sizing systems, and safety. The book was written by Michael Bryce, WB8VGE, and is a great way to learn about alternate off grid power systems for under \$30.00. The web address is <http://www.arrl.org/shop/Emergency-Power-for-Radio-Communications/>.

HQ 101

Submitted by Dan Lasley, NE7JN, contribution by Amanda Nash, KM4MSC

For January's HQ 101 session, one of Delta's CW masters, Jim Cissell, KI4I, will give a primer on Morse code. Jim says, "I will present a couple of characters and show the attendees that they can learn the sounds of the letters without counting dits and dahs. I'll give them a key and have them mimic what I send, sort of like playing music by ear."

In a recent HQ 101 Amanda Nash, KM4MSC, handed out programming cards for the Baofeng UV-5R handi-talkie. Thanks, Amanda, for sharing this information:

- Put the radio into VFO mode (press the orange button; it will say "frequency mode")
- Enter the repeater's receive frequency
- Press Menu > Enter 13 [T-CTCSS] > Menu > scroll to proper tone > Menu
- Enter 25 [SFT-D] > Menu > choose pos/neg/none > Menu
- Enter 26 [Offset] > Menu > Enter offset > Menu
- Enter 27 [Memory channel] > Menu > Enter the memory channel > Menu > Exit
- Press Scan [asterisk] > Press Menu three times

If you would like to request that we discuss a topic in HQ 101, contact [Linda Laseter](#), KJ4CTX, or [Dan Lasley](#), NE7JN.

2017 Swamp Stompers Event

Submitted by Dan Lasley, NE7JN, contribution by Keith Barton, KT4EP

Keith Barton, KT4EP, has asked me to mention the [Swamp Stompers](#) event that is coming up on Sunday, January 15.

In this event, we help coordinate a bunch of crazy people who run 25 or 50 kilometers through mud in rough terrain during perhaps the coldest part of winter! Unlike the runners, this is an easy event for us, and they feed us a great lunch.

Speaking of food, the volunteers meet for breakfast before the event at 6:30 am at the [Shelby Forest General Store](#), 7729 Benjestown Road, Millington, TN 38053. If you volunteer, please join us for breakfast. Last year's breakfast was spectacular and we expect nothing less this year.

Last month's Sparks contained a small-scale map of the event. You can find a larger scale map on the following page. You can also pull up the map by clicking [here](#).

If you have questions on the event, please contact [Keith](#).

We thank Delta's Board of Directors and Repeater Trustee for the use of the 146.82 repeater during the event.

Delta Ham License Training 2017

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

17 Technician

17 General

5 Extra

If you are interested in attending a training class, send an email to [Joe Lowenthal](mailto:Joe.Lowenthal@ke0og.com) with the desired class name in the subject line, along with your name, email address and cell phone number in the text.

The new [Technician question pool](#) is effective July 1, 2014, through June 30, 2018. You will need the [ARRL Ham Radio License Manual 3rd Edition](#) to study for the Technician exam.

The new [General question pool](#) is effective July 1, 2015, through June 30, 2019. You will need the [ARRL General Class License Manual 8th Edition](#) to study for the General exam.

The new [Extra question pool](#) is effective July 1, 2016, through June 30, 2020. You will need the [ARRL Extra Class License Manual 11th Edition](#) to study for the Extra exam.

Planned Classes

Extra Class 1-17: January 7, 2017, to February 18, 2017

Extra Class 1-17 will be held on six Saturdays from 9am to 1pm at EMHC ambulance company training room, 6872 Appling Farms Parkway from January 7th to February 18th except on January 28th. There are eight students registered. If interested send an email to [Joe](mailto:Joe.Lowenthal@ke0og.com) with Subject line "Extra Class" and include name, callsign, email address and cellphone number in the text.

Tech Class 2-17: February 25 -- April 15, 2017

Tech Class 2-17 is scheduled to be held on six Saturdays from 9am to 1pm at EMHC ambulance company training room, 6872 Appling Farms Parkway, from February 25th to April 15th except for March 11th and April 8th. April 8th is FreeFest. If interested send an email to [Joe](mailto:Joe.Lowenthal@ke0og.com) with Subject line "Technician Class" and include name, email address and cellphone number in the text.

You may want to do some pre-study by going to www.ke0og.com. On the right side he has links to Technician, General and Extra Class YouTube video training.



General Class 5-16 taking their exam. Photo by Joe Lowenthal, WA4OVO.

Classes Completed

General Class 5-16: November 7, 2016, to December 12, 2016

General Class 5-16 began on November 7th for six Monday nights to December 12th at Germantown Police Department training room. Eleven students completed the class. Congratulations for their upgrade to General go to Chris Cooper, KM4PMW, Linda Griffin, KM4STI, Brad Grissom, KG5KSW, Nick Molinaro, KM4DPK, Jim Murry, KM4KBY, Joe Thomas, KG5IXG, Jonathan Towles, KM4EFB, Chuck Turner, KM4KBZ, and Curt Warhurst, KM4MRT. Jim Barnes, N4YOK, from General Class 2-16 also upgraded.

Voice Over IP (VOIP) Software

Submitted by Hugh Wardlaw, WB4SLI

If you, like I, would like to remotely operate your rig on SSB or FM, or just monitor a net, then one hurdle is getting the audio between the two computers. Many people use Skype for this. There is an alternative named IP-SOUND. It allows complete control of the audio levels. If you are doing sound card digital communications then you have the necessary hardware to make this work (or Skype).

Here is the author's description:

"IP-Sound is a Free application for audio exchange client to client over a TCP/IPv4 network (Lan/Internet). The main purpose for the existence of IP-Sound is to provide low quality audio 8-16kHz, with low latency for use together with remote control software for "ham" radio amateur equipment. IP-Sound is developed by SM5VXC."

If you would like to experiment for yourself then go to <http://www.iw5edi.com/software/ip-sound>.

One caveat is that this is a windows application. It would be nice for a Mac and Linux version to exist. I would like to put the software on my Raspberry Pi.

I would recommend the USB headphones with mic that many gamers like to use for the peace and tranquility of the living area of the home. The better half and the harmonics would rather not hear your ragchew or rare DX. The headphone and mic use a single cable which has a USB connector and USB sound card. Plug in the phones and you are good to go.

73 es GL,
Hugh, WB4SLI

Editor's note: Thanks to Hugh for an interesting unsolicited article. I haven't received many unsolicited articles in the last year and I welcome more! Share your interests with the ham community, whether a paragraph or several pages!

December Meeting

Submitted by Dan Lasley, NE7JN, many photos by Joe Lowenthal, WA4OVO

We celebrate Christmas and Hanukkah in the last club meeting of the year. Thanks to everyone for bringing exceptional dishes to share with the club members and families. In the December meeting we also recognize those members who provided exceptional service during the year. When you next see these folks, please say thanks for their service!



Club president Ken Laseter (left), KI4AOH, recognizes Pat Lane, W4OQG, as Ham of the Year. Congratulations, Pat!

Pat helps with ham training classes (for which he received an additional recognition certificate), acts as net control for the MS 150 bike ride and Diabetes Tour de Cure events, and, ever the professional, is always available to answer questions from those of us who are amateurs.



Ken recognizes Len Grice, W4MKS, as New Ham of the Year. Len has done an excellent job in the new position of Public Information Officer.

Unfortunately Len was recovering from surgery and was not able to attend the December meeting. We wish him well and we hope he is able to join us again soon.



Ken thanks Michael Knight, KK4IOH (left photo) and Jim Cissell, KI4I, for their exemplary service as vice president and program director, respectively.

Michael and Jim are leaving their positions

after several years of Delta Club service to the ham community.



(L-R) Stacy Krause, KJ4MDA, Linda Laseter, KJ4CTX, and Barri Munday, WB4SWP, have served as net control operators for the reestablished YL Net on the 146.82 repeater each Saturday evening at 8:45 pm.

Linda is in large measure responsible for the reestablished YL Net, for monthly YL lunches, and for the HQ 101 sessions given just prior to the monthly club meeting.

Delta thanks our YLs for their service.



Joe, WA40VO (fourth from left), recognized (L-R) Art Barnett, WA4PSS, Michael Knight, KK4IOH, Keith Barton, KT4EP, Barri Munday, WB4SWP, and Bob Vawter, KW4RJ, as Net Control Operators for Delta's nightly information net. As Ken, KI4AOH, is fond of saying, "Make sure to thank the net control operators for taking time from family and busy schedules to call the net for us. They are some of our most valuable assets!"



Joe recognizes Danny Banks, KJ4FXZ, for his role as the 2016 Net Control Manager. Upon the announcement, club members clapped loudly for Danny, not only to say thanks but also to let him know we are very happy he is recovering from recent health issues.

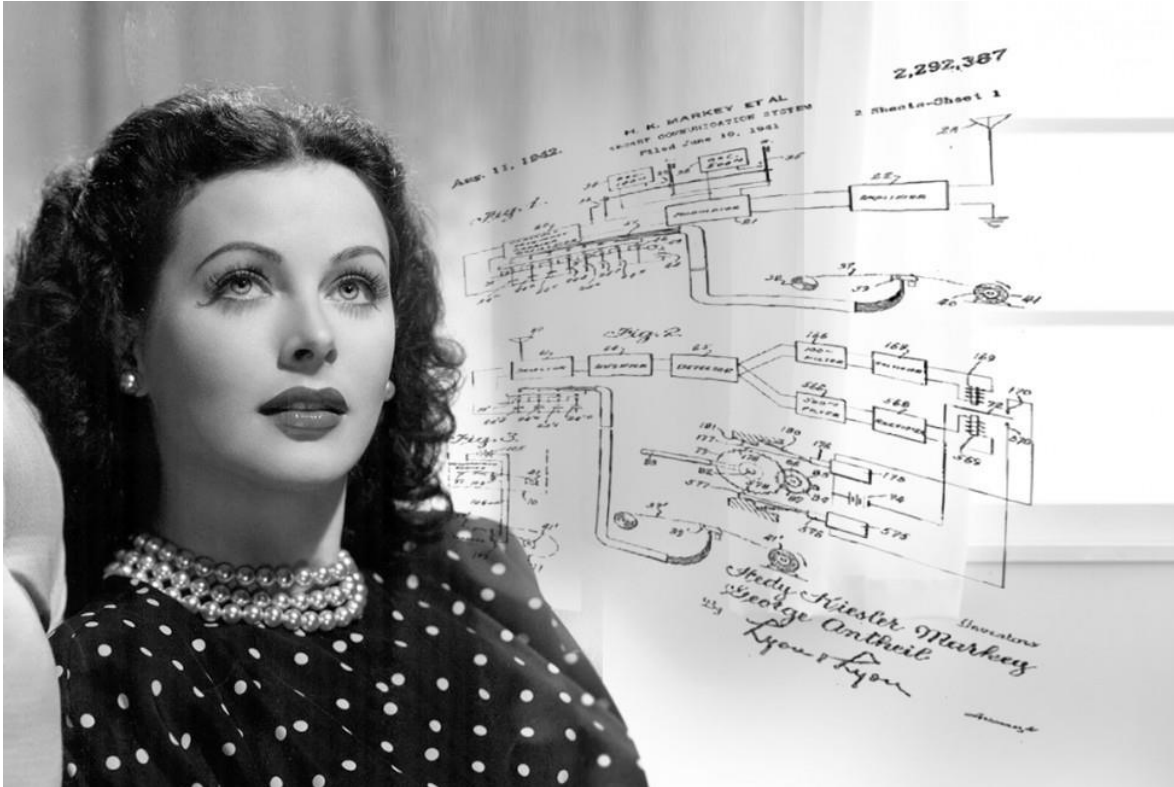
Best wishes, Danny!

Women in Radio

Submitted by Kim Coryat, W8KAY

Editor's note: we are beginning 2017 with a new column about women with significant accomplishments in the art and science of radio. Each article is written by a woman and most of the writers are hams. YLs, please contribute more articles!

The "Most Beautiful Girl in the World" Invents Spread Spectrum Technology



"Any girl can be glamorous. All she has to do is stand still and look stupid." – Hedy Lamarr (1914-2000)



George Antheil (1900-1959)

She may have been glamorous, but Hedy Lamarr was anything but stupid. A superstar of the silver screen in the 1940s and 1950s, she starred in films with some of the greatest leading men of her day: Clark Gable, Spencer Tracy and Jimmy Stewart to name a few. Yet her most important and enduring role was as the co-inventor of spread spectrum technology with avant-garde composer George Antheil "The Bad Boy of Music".

Born Hedwig Eva Maria Kiesler in Vienna, this only child of an upper class Catholic family with Jewish roots aspired from childhood to be an actress. She had no formal mathematical or scientific education beyond what she learned in a convent school.

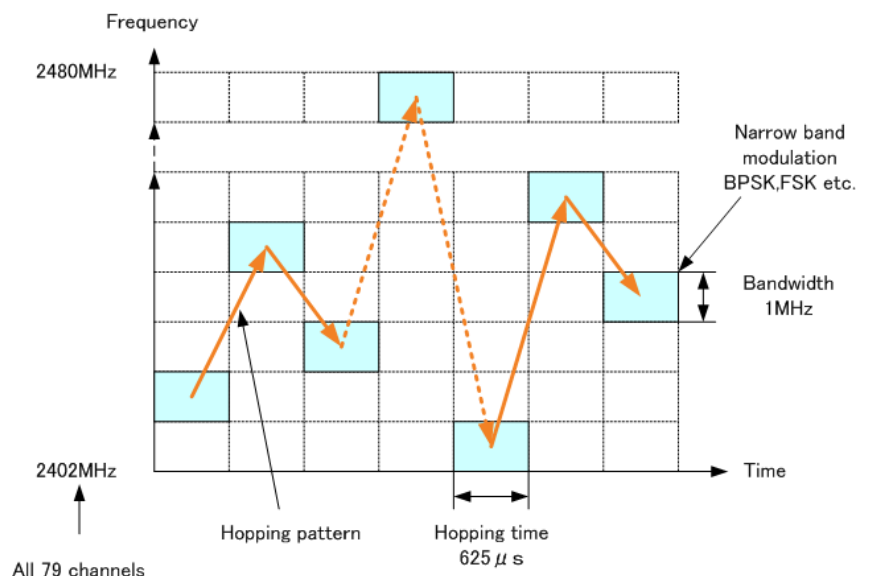
After a brief film career, she married millionaire Friedrich "Fritz" Mandl, an arms manufacturer and dealer to the Austrian and Italian fascists. During her four year marriage to Mandl, as his "showpiece wife" she accompanied him on business trips, listening carefully to all discussions. It was at these meetings that she self-educated in the mathematics and engineering of advanced weaponry, electronics and communications. She grew to despise the Nazis and her controlling husband, escaping to Hollywood and landing a contract with MGM under Louis B. Mayer.



Once in Hollywood, Hedy changed her name to Lamarr and enjoyed an enviable and highly successful film career. She made over two dozen movies, but may be best remembered as Delilah opposite Victor Mature's Sampson in 1949.

Despite her hectic schedule, Hedy wished to contribute to the effort to destroy the Nazis. Although encouraged to stick with acting – and fund raising with War Bonds – Hedy aspired to something more.

Combining their knowledge of weaponry, electronics, mathematics and music, Lamarr and Anthiel realized that radio controlled torpedoes could be made jam-proof using a frequency hopping method similar to that of piano rolls. If the sender and receiver both know the encryption "tune" (i.e., the sequence and timing of frequency changes), the signal can be sent without fear of jamming or third party interception. Since the signals rapidly hop among many channels, interference affects only a small portion of the signal. Anyone attempting to eavesdrop would have a hard time differentiating it from background noise – unless they have the "tune". They received Patent No. 2,292,387 on August 11, 1942, under the name "Hedy Keisler Markey" (Hedy was married to second husband George Markey at the time) and George Anthiel for a "Secret Communications System."



They donated their invention to the Navy, but the military being cautious of an invention not from their own engineers, did not use it. Frequency Hopping Spread Spectrum (FHSS) was not implemented until 1962 during the Cuban Missile Crisis. Neither of them ever received any compensation for their invention. Hedy lived long enough to see her Spread Spectrum Technology become the foundation for wireless communications.

Hedy Adds New Twist to War



Hedy Lamarr

Actress Invents Control Device While Toying With Torpedo Idea, Has Patent to Prove It

HOLLYWOOD, Nov. 18 (AP).—It could not have been a press agent's stunt, because the timing was too perfect, but the report from London that film actress Hedy Lamarr had patented a radio steering device for torpedoes at least had a patent to back it up.

In an interview, Hedy modestly admitted she did only "creative work on the invention," while the composer and author, George Antheil, "did the really important chemical part."

Hedy was not too clear about how the device worked, but she remembered that she and Antheil sat down on her living room rug and were using a silver match box with the matches simulating the wiring of the invented "thing."

She said that at the start of the war "British fliers were over hostile

territory as soon as they crossed the channel, but German aviators were over friendly territory most of the way to England... I got the idea for my invention when I tried to think of some way to even the balance for the British. A radio controlled torpedo, I thought would do it."

Hedy asserted that the "control" device works on aerial as well as submarine torpedoes. She said it works on anything and added that it was "lots of fun planning the invention and watching them pick, sort and put together all the little thingamabobs that went into the device." She said it was lots more fun being scientific than going to the movies.

She coyly dodged a query as to whether any company was interested in producing the device but did admit that as far as she knew nobody has ever used it yet for any practical purpose.

Kimberly Coryat has been on the air since the early '70s. Her radio chatter comprised exchanges with Air Traffic Control as she progressed in her career as a pilot. Kim's inspiration was her Dad, who sat his little girl on his lap as he taught her to fly the family Bonanza. She started her professional career at the Hurricane Center in Miami as a mathematician/programmer and later became an equipment operator on the NOAA P3s. Flying through the storms was the most exciting and interesting thing she could do, but she wanted to do it from a pilot's seat. So she joined the USAF to become a Hurricane Hunter in C130s. Twenty years later she retired after also flying King Airs and C5s and being a veteran of Desert Storm/Shield. Now at FedEx, she is a Captain on the MD11 and works to improve flight safety. Her global adventure has taken her to all 50 states and 67 countries and she's worked plenty of HF, UHF and VHF frequencies with people whose native language is not English. Kim's beloved uncle, Arthur Paradis, earned his ham call sign as a teenager in 1937. Despite a lifetime of cajoling, Kim didn't get her ham license until his passing. In honor of his memory, Kim took the Technician exam with the Delta Club in September, 2014, and was later awarded his call sign, W8KAY. Kim's degree is in Applied Math, but she also studied Physics, Computer Science and Atmospheric Science. She is married to her high school sweetheart, John, and they live in East Memphis with their beautiful daughter, Catherine.

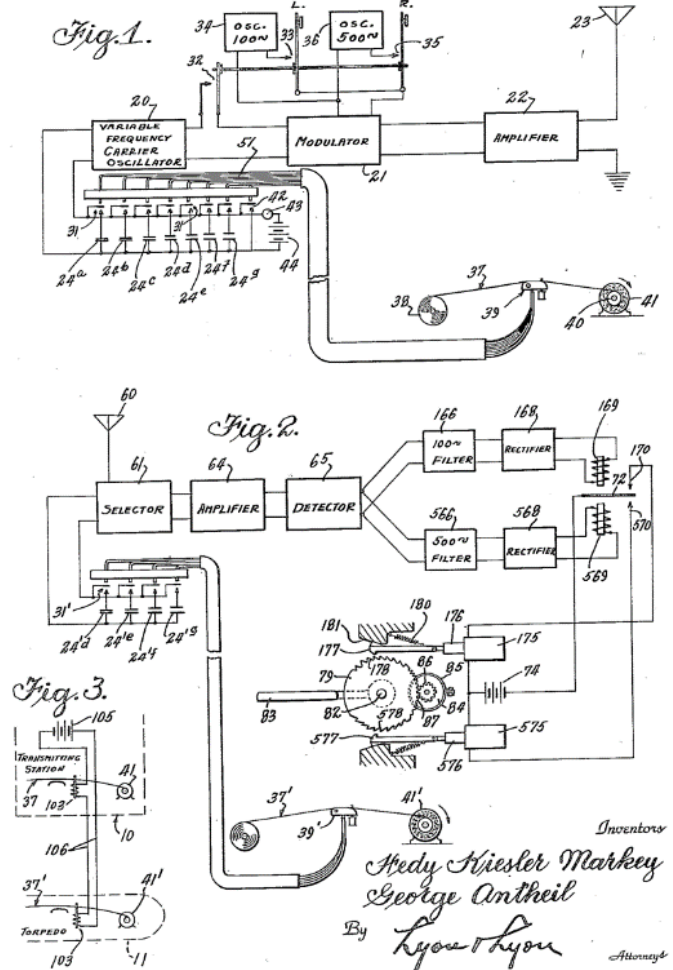
Aug. 11, 1942.

H. K. MARKEY ET AL
 SECRET COMMUNICATION SYSTEM

2,292,387

Filed June 10, 1941

2 Sheets-Sheet 1



YL News

Submitted by Linda Laseter, KJ4CTX

YL NET – Please join us on Saturday nights at 8:45 p.m. on the 146.820 repeater. We will be listening for you.

YL LUNCHEON – Happy New Year!

I hope everyone had a wonderful Christmas and brought in the New Year with thoughts of health, happiness, and prosperity for one and all.

We decided not to have a luncheon in December due to all the various other functions that were being held in December. But we are starting the new year with our luncheon at Rafferty's as follows:

Rafferty's
11:30 a.m.
Saturday, January 21, 2017
505 N. Germantown Pkwy.
Cordova, TN 38018

We have fun talking and of course sharing ham information. We hope you find time in your busy schedule to join us.

33,
[Linda Laseter](#), KJ4CTX

Winter Field Day

Submitted by Dan Lasley, NE7JN

Cathy Goodrich, KK4IWN, is the ARRL Public Information Coordinator for the Tennessee Section. She reminds us about the year's **first** Field Day (yes, there are two Field Days per year). Winter Field Day will be held on January 28 and 29. See winterfieldday.com for details.

Even if you don't brave the elements, Winter Field Day is a good time to snag the contacts you need for WAS or other ARRL awards.

HF Propagation, Part 4

Submitted by Dan Lasley, NE7JN

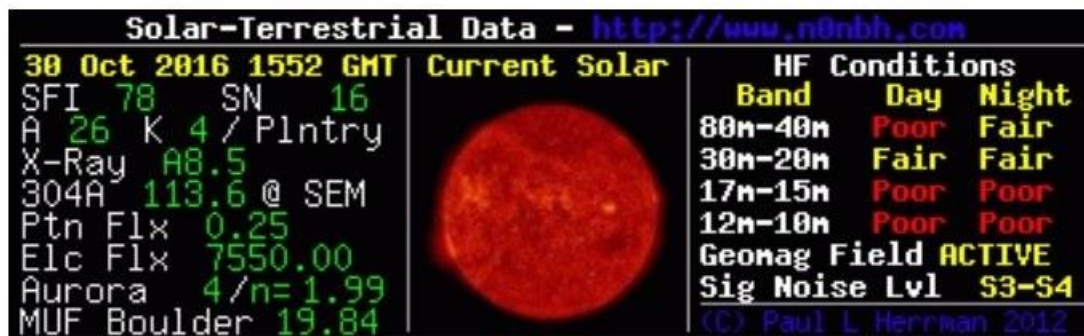
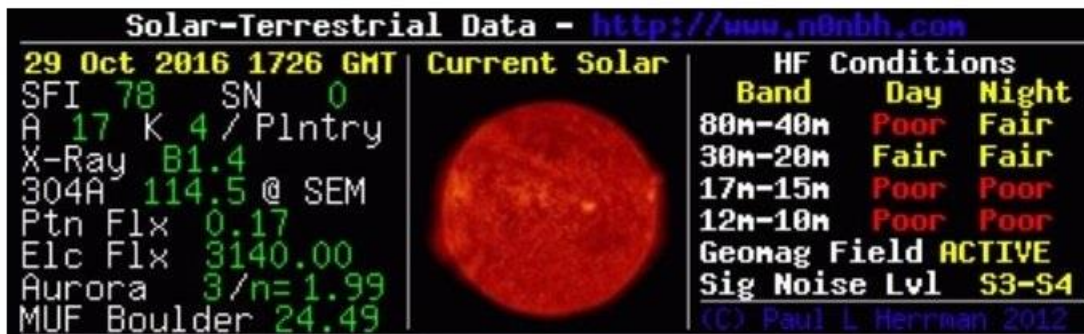
In last month's [newsletter](#) I promised a look at solar conditions during the [CQ World Wide DX Contest](#), October 29-30, 2016, and said I would have more propagation questions than answers. Many of you have much more HF DX experience than I do, so I'm counting on you for some answers!

Solar conditions during the 2016 CQ World-Wide DX Contest on October 29th and 30th were, according to all indicators, terrible. [Spaceweather.com](#) said of the 29th, "WEEKEND STORMS: A minor G1-class geomagnetic storm is underway on Oct. 29th as Earth continues to pass through a stream of high-speed solar wind. Conditions should quiet later this weekend as our planet begins to exit the stream. Until then, Arctic sky watchers should remain alert for auroras."

[Spaceweather.com](#) said of the 30th, "THE AURORAS JUST WON'T STOP: Six days after Earth entered a stream of high-speed solar wind ... we're still inside. The solar wind continues to blow faster than 600 km/s on Oct. 30th."

Neither a G1-class geomagnetic storm nor a 600 km/second solar wind is a prophetic indication of excellent propagation.

Let's look at [solar conditions](#) on those two days:



The Solar Flux Index (SFI) for both days was 78, not exciting by any measure. The Sunspot Number (SN), 0 and 16, was pitiful. A index values (the prior day's cumulative K index) were not good at 17 and 26. K, an [indicator](#) of disturbances in the Earth's magnetic field,

was lousy at a value of 4, which is another [indication](#) of minor geomagnetic storms. The graphic predicts, for each day, fair conditions on 20 and 30 meters and poor conditions on the other named bands.

If your golf scores were predicted to be equally bad, you might want to consider another sport!

So what do we do? Forget the contest and go practice our putting? Heck no, we're hams, so we fire up the rig and see what's happening on the bands!

I'm working on the DXCC and five-band WAS awards, so I did a lot more listening than talking during the contest and didn't usually attempt countries or state/band combinations I'd already confirmed.

I heard 31 countries and seven states on 10, 15, and 20 meters. I worked two All Time New Ones (Panama and Ascension Island), St. Kitts and Nevis Islands, Canada, Cayman Island, Columbia, Ecuador, and several state/band combinations I needed.

My equipment is very modest (a 100 watt radio that is about 20 years old, a tuner, and three half-wave dipoles, the highest of which is about 21 feet off the ground). Imagine what you could have accomplished with a newer, fancier radio, a kilowatt linear, and a multi-band beam on top of a tower!

I spent most of my time on 10 and 15 meters; both were full of DX stations with good signals. 20 meters was mostly U.S. hams and as with the higher frequencies, signals were generally good.

Let's summarize: weak SFI, few to no sunspots, ugly A and K values, a G1-class geomagnetic storm, a solar wind perhaps twice the normal velocity, and poor or fair predicted HF conditions.

Why are all the metrics so disgustingly poor, yet 10, 15, and 20 meters had gobs of good signals with little or no QSB or QRN?

Predicted and actual conditions were seriously out of whack and I'm at a loss to explain why actual conditions were so much better than predicted conditions. These two days can't be considered an outlier; I'm on 40 meters every morning and the 40M group often notices that predicted and actual conditions diverge significantly.

Have our propagation tools failed us?

Who can help with some answers?

Stay tuned.

Estate Sales

Submitted by Dan Lasley, NE7JN, contributions by Bill Stevens, WC9S

Delta recently acquired equipment from the estates of KC5E and KG4TKY. Bill Stevens, WC9S, asked me to remind everyone that 20% of all sales go to the club and that he will have the listed equipment available at the January Delta Club meeting. If you have questions about any of the equipment, please give Bill a call at 901-603-3448.

Thanks to Richard Martin, K4DXF, Rick Tillman, WA4NVM, and especially to Bill for all their work on the estate equipment.

Griffen KC5E Estate	Price	Comments
Ameritron 811 H Amplifier	\$700.00	Still in production
Ameritron ARB - 704	\$50.00	Still in production
Ameritron ATP - 102 Tuning Pluser	\$65.00	Still in production
ASA Low Pass Filter	\$20.00	
Astatic Speaker	\$10.00	
Bencher iambic Key	\$135.00	Still in production
Bencher Straight Key	\$130.00	Still in production
Daiwa CS-201 Antenna Switch	\$25.00	New
Heil FS-3 Foot Switch	\$30.00	Still in production
HI-Gain VB-25FM 5 element beam 2 meter	\$44.00	New
Hy-Gain AV-620 6 band Vertical Antenna	\$280.00	
Icom IC - V8 HT with Charger	\$30.00	Needs Battery
Kenwood 281	\$125.00	
Kenwood HS-5 Headset	\$60.00	Still in production
Kenwood Remote VFO-555	\$10.00	
Kenwood SP-31 Speaker	\$40.00	
Key Straight	\$20.00	
LDG YT - 1200 Auto Tuner	\$210.00	Still in production
MFJ 1118 DC Outlet	\$70.00	Still in production
MFJ 113 Clock	\$15.00	Still in production
MFJ 259 Antenna Analyzer	\$50.00	Old
MFJ 862 Watt Meter	\$55.00	Still in production
MFJ 862 Watt Meter	\$55.00	Still in production
MFJ 989C Versa Tuner V 3kw	\$160.00	
MFJ 989D Versa Tuner V	\$330.00	Still in production
Misc. Wires		
Radio Shack Speakers	\$10.00	
SEC 1235M Power Supply 30 amp	\$100.00	Still in production
Yaesu DX - 1200	\$800.00	Still in production
Yaesu FT - 1000MP with hand mic	\$800.00	
Yaesu FT 450 with Hand Mic all mode	\$600.00	
Yaesu FT 920 with hand mic	\$640.00	
Yaesu MD - 100 Table Mic	\$110.00	Still in production
Rye KG4TKY Estate REDUCED PRICES !		
Tentec Orion II HF transceiver #566	\$1,600.00	
Tentec Antenna Tuner #238b	\$280.00	
Tentec External Speaker #307	\$60.00	All for \$2,000.00
Tentec Power Supply #963	\$65.00	
TenTec Encoder/Keypad #302	\$60.00	
TenTec Desk Mic. By Heil	\$80.00	

Odds-n-Ends

Submitted by Dan Lasley, NE7JN

At Delta's recent swap-n-shop, Pat Lane, W4OQG, gave away a bunch of his old QSTs. I snagged the 1999 and 2000 issues and have really enjoyed reading them (thanks, Pat!). In the March, 2000, QST I found a reference to satellite tracking software that would run under Linux. The software package, called [PREDICT](#), is by John A. Magliacane, KD2BD. In the early 2000s, long before I became a ham, I downloaded, installed, and experimented with the software, including making a number of changes to the audio output. If you are interested in satellite QSOs, check out PREDICT.

In a back issue of Nuts & Volts magazine, a reader requested an audible continuity tester that will beep when the resistance across the test leads is, at most, a few hundred ohms. T.J. Byers responded with a [circuit](#) using an LMC662 op amp and eleven other components. T.J. says, "... if you set the sensitivity to 30 ohms, the tester will emit a tone if the resistance between the probes is 30 ohms or less. If the resistance is 30.2 ohms, the buzzer remains silent." You can use the tester in-circuit (with power off, of course) without fear of damaging sensitive semiconductor devices. Very simple to build and pretty impressive!

Another back issue of Nuts & Volts brings "[Receiving Data with a Low Cost Shortwave Radio](#)" by George R. Steber. The author shows how to use a low cost shortwave receiver or a ham receiver to process CW, RTTY, Binary Phase Shift Keying, Weak Signal Propagation Reporter, JT9, JT65, FAX, SSTV, and EasyPal via software. A reader comments "Nice article and thorough."

Several of us on a 40 meter group were talking about World War II radars one morning. I went to the [archive](#) of The Wireless World, a magazine from the U.K. that covered electronics technology from 1913 to 1984, to search for Chain Home, H2S, and other radars of the period, but got sidetracked in reading about various columnists' reactions to the early stages of World War II. I have the distinct impression that in the first few months of the war, writers considered the war more of an irritant than an existential threat to their country! Check out the archive for war news and for interesting radio circuits.

From the ARRL Letter for December 22, 2016: "The WSJT Development Group has released [WSJT-X version 1.7.0](#). This software suite is designed to facilitate basic Amateur Radio communication using very weak signals. Joe Taylor, K1JT, recommends reading the extensively updated WSJT-X version 1.7 [User Guide](#), which describes new features and capabilities. WSJT-X version 1.7.0 includes new modes ISCAT, MSK144, and QRA64; newly implemented submodes JT65B-C and JT9B-H; a new Franke-Taylor decoder to replace the Koetter-Vardy decoder previously used for JT65; improvements to the JT4, JT9, and JT65 decoders; multi-pass decoding for JT65 and WSPR, and improved convenience features for EME Doppler tracking."

[10-10 Winter Phone QSO Party](#), held on the first full weekend in February, 0001 UTC Saturday through 2359 UTC Sunday.

DX News

Submitted by Dan Lasley, NE7JN

This information is courtesy of the ARRL's DX news emails.

SENEGAL, 6W. Peter, HA3AUI plans to operate as 6W2SC and J5UAP from January 20 to March 5, 2017. He will be QRV on 20 to 10 meters using CW. QSL via HA3AUI (d), LoTW.

ANTARCTICA. Alex, RD1AV is QRV as RI1ANC from Base Vostok, IOTA AN-016, until February 15, 2017. Activity is in his spare time on the HF bands using CW, SSB and various digital modes. QSL via RN1ON.

MINAMI TORISHIMA, JD1. Take, JG8NQJ will be QRV as JG8NQJ/JD1 from Marcus Island, IOTA OC-073, from December 19 to March 15, 2017 while on work assignment. Activity will be in his spare time on 20 to 6 meters using CW and RTTY. QSL to home call.

INDIA, VU. Special event station 8T1VWN is QRV until the end of 2017 to honor the memory of K. R. Vasantha Kumar, VU2VWN. QSL via VU2ACC.

ROMANIA, YO. Horia, YO3IMD will be QRV with special call sign YP2017HNY from December 20 to January 20, 2017. QSL via YO3KPA.

SOUTH COOK ISLANDS, E5. Milan, OK1DWC is QRV as E51DWC from Rarotonga Island until early in 2017. Activity is on 160 to 10 meters using CW, SSB and RTTY. QSL to home call.

PRINCE EDWARD AND MARION ISLANDS, ZS8. David, ZS1BCE is stationed on Marion Island, IOTA AF-021, until May 2018 and plans to be QRV as ZS8Z during his spare time. QSL via ZS1LS.

NIGERIA, 5N. Tom, PA3TG will be QRV with his new call 5N40TG beginning January 1, 2017. Activity will be on 20 meters using CW and SSB. QSL to home call.

SVALBARD, JW. Erik, LA2US is QRV as JW2US from Hopen Island, IOTA EU-063, for the next six months. Activity is in his spare time on the HF bands using mostly CW. QSL via operator's instructions.

LAOS, XW. Bruce, 3W3B will be QRV as XW4XR from January 3 to 15. Activity will be on the HF bands using CW, RTTY and JT65. QSL via E21EIC.

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 2017 are listed in *italics*.

Upcoming Public Service Events

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

2016 Date	Event	Contact Information
June 4	Diabetes Tour de Cure	Pat Lane, W4OQG
Sep. 10-11	2016 Bike MS: FedEx Rock-N-Roll	Darrell Sheffield, KK4D
Oct. 1	Bluff City Blues 100 Ride	Danny Banks, KJ4FXZ
Dec. 3	St. Jude Marathon	Roger Schlichter, WR4R
2017 Date	Event	Contact Information
Jan. 15	Swamp Stompers 50K/25K Run	Keith Barton, KT4EP
May 6	March of Dimes March for Babies	Linda Laseter, KJ4CTX

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 2017 Annual Memberships! Download the latest Delta Club [Membership Application Form](#). The 2017 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!

Memphis Area VHF/UHF Nets

Updated September, 2016

Name of Net	Freq. MHz	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 Barefooted Bullfrog Net	146.535	[simplex]	7:30p	Daily
Secret Service Net	224.780	[no tone]	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

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See Advertisement Order Form for Instructions.



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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*.

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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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