

AARC OVER

*Keeping
Austin
Wireless*

*for
100
Years!*



AARC

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Austin Amateur Radio Club

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May, 2019

Lightning and Lightning Safety

By Mikel Lozano, K5RLY

I remember it as if it just happened! I was four years old when I was struck by lightning! The picture is imprinted in my brain like a photograph – I was in my home's screened-in porch, leaning against the screen, watching the morning storm which was occurring in San Antonio, Texas.

Suddenly, a bolt of lightning hit the telephone pole in front of our neighbor's yard. Most of the bolt went directly into the ground, but a part of it jumped to the metal fence that separated our yard from the neighbor's; then to my Mom's metal clothesline in the backyard; then to the screen of our screened-in porch and straight into my hands.

I don't remember much after that. According to my Mom, the bolt knocked me backwards a few feet and knocked me out! All of this happened while my Mom stood a few feet away at the stove, cooking our small family's lunch. By the time she scooped me up I had come to, and started crying. That was it! Not much to tell after that ... at least I didn't think so at the time.

I can still recall the exact picture of our backyard, like an old black and white photograph! It wasn't until many years later that I had my second lightning episode. I was about nineteen years old, and in the middle of a particularly fierce thunderstorm. I was inside my home when all of a sudden I heard a strangely familiar hiss, followed by an extremely loud report. This time, lightning had struck a large Pecan tree in the backyard. The next day I went out in the yard and found that the lightning bolt had burned a counter-clockwise scar along the tree's trunk. It ran from the point high above, where the bolt had hit, all the way into the ground. I think that episode was the impetus behind my professional interest in bolts from the blue.

Lightning is actually quite a simple creature! It consists of a difference of charges between two points. Lightning occurs when that difference is equalized. If that's difficult to understand, think about the times in Winter when you walk across a carpet to greet someone, only to have a miniature spark jump between you and them. Although it's usually innocuous, under some circumstances, such as in the presence of gas it can precipitate a disaster!

Let's get back to that 'charge' stuff. Everything in nature is composed of atoms. Like miniature solar systems, atoms consist of a Nucleus in the center (comparable to the solar system's Sun). Around that, in different orbits are tiny particle charges called Electrons. There are two types of particle charges ... Protons have a Positive charge ... Electrons have a Negative charge. There are also other particles called Neutrons, which have no charge at all. In the 'happy' little atom there are enough Protons to counter-balance the Electrons.

There's another rule governing atoms and their particles! Like charges repel one another, and opposite charges attract one another. Therefore, two Electrons will repel each other, just as two Protons will also repel each other. Let's take the example of a simple atom: The element known

(Continued on page 4)

HAM RADIO TEST RESULTS

AARC would like to congratulate the following individuals on their accomplishments!

The following are the results of the ARRL VE test session held on April 13th, 2019 at Bethany United Methodist Church:

Technician Class Licenses Processed

David R. Canales KI5EIB
James L. Paschall KI5EIE
Jacqueline D. Surls KI5EID

Melvin L. Hagge KI5EHZ Michael D.
Edward R. Petrere KI5EIC

James KI5EHY
Frank H. Schaefer IV KI5EIA

General Class License Processed

Sameer V. Bibikar KI5EIF
David Z. Dawson KI5EIG
Brendan A. Schuetze N1CSM
Randy H. Tiffany KC3NAG

Garrett E. Booth KI5EIJ
Jeffrey L. Power KC7JLP
Carl E. Svahn KI5DDJ

Alan Capewell W1IPI
Kyle C. Read KI5DKM
Gordon L. Tallman Jr KI5EIH

Extra Class Licenses Processed

Richard L. Caponigro KI5DRE
Donald L. Pettigrew AG5UF

Richard L. Lamb KN4SOW
Joseph M. Surls KI5DDO

David A. Liu KI5DDL

Examiners Participating in this Test Session

Mark Esslinger W5MAE
Sallie Howard AB5YL
Joe Makeever W5HS

Larry Gunter WB5BEK
Ted Iglehart KF5END

Gene Hinkle K5PA
Arlen Levin WA6AUF

Next ARRL VE Test Sessions

May 4th - Bethany United Methodist Church, Disciple Building, Room 203/204
June 1st - Bethany United Methodist Church, Disciple Building, Room 203/204

TNX ES 73 DE W5HS
Joe

4/20/19

The South Austin W5YI VE team heartily congratulates the following people who earned new or upgraded amateur radio licenses at our April 20, 2019 session:

Amateur Extra Class

Jason Knobloch, KG5DRT

Alan Capewell, W1IPI

David Karoly, KI5DZY

George Kumengi (NEW)

General Class

David Olivenbaum (NEW)

Jennifer Oliphant, KG5JYL

Rogan Phillips (NEW)

Technician Class

Spencer Wallace
George Milikich

James Kim
Bon Wier

Joseph Baranauskas

Jeffrey Cotton

Our administering volunteer examiners were:

Craig Bean, AC5KW
Scott Bryan, W5TS

Gary Popp, AE5JR

David Dyer, AG5OS

Wally Marusa, K5WLY

Our next two amateur radio exam sessions will start at 2 PM on May 18th and June 15th in Fleck Hall, room 118 on the campus of St. Edward's University. All sessions are walk-in and the exam fee is \$14.

For additional information regarding our amateur radio examination sessions, please contact Craig, AC5KW at (512) 474-6443 or by e-mail to craigmb5 /at/ gmail.com



as Beryllium. It has four Electrons in orbit around the Nucleus, which are counter-balanced by four Protons in the Nucleus. HOWEVER... The four Protons in the Nucleus repel each other!!! So – what keeps the Protons from repelling each other and flying off into space? That's the role of another particle called the Neutron! The Neutron has no charge, but it acts as a nuclear glue, keeping the Protons together in the Nucleus! So far everything's well and good! The atom is perfectly balanced!

The idea of Like charges repelling each other can best be demonstrated by using magnets! When the north and south poles of two magnets are brought together, they'll stick to each other. However, if you try to put two south poles or two north poles together, they'll repel each other very strongly. That will give you an idea of what the Neutrons are fighting as they try to hold the Protons together in the Nucleus!

It's when the typically stable atom is disturbed by having one or more of its Electrons removed that it is said to become charged. The Electrons are said to be Negative in charge, while the Protons in the Nucleus give the atom a net Positive charge. Without going into a lot of detail, this is basically what happens when a lightning bolt is generated.

As lightning has been associated with thunderstorms tall enough to have a freezing level, it's generally thought that when liquid rain freezes charges are separated into positive and negative areas within the storm. Alternatively, when lightning is produced in volcanic eruptions, the separation of charges is caused by particles rubbing against each other. In any event, the result is a bolt of lightning as the charges seek to equalize themselves.

So ... how does lightning occur between the clouds and the ground? In a simplified version, the negative charges in the cloud repel similar charges on the ground. That action creates an area of different charges between the cloud and ground. When the difference is strong enough the attraction between the negative charges and positive charges leaps across the space from the cloud to the ground. The process is best shown by the animation in the URL listed as "How Lightning Strikes".

Actually, lightning is relatively simple. It just wants to equalize the difference in charge by the easiest method possible! Most of the time, lightning strikes within the cloud itself, but of importance to us, are the times it wants to strike the ground. Then; Benjamin Franklin's invention of the lightning rod becomes a real game-changer!

Again – in principle, lightning rods are simple! Their function is to conduct the lightning channel (which can be as thick as your thumb, and hotter than the surface of the Sun) to ground. What about thunder? That's caused by the twenty- to fifty-thousand-degree heat of the lightning channel, heating the air in its path. That creates a tremendous shock wave which pushes the air aside, and creates the sound known as thunder. By counting the numbers of seconds between the flash of lightning and the sound of thunder, it's possible to determine the distance to the stroke. **

(Continued on page 5

Lightning rods have been proven to be the single most effective deterrent to lightning damage. When combined by an effective system to channel the stroke into the ground, it can prevent lightning from damaging equipment, homes and lives. While it's possible for property owners to install their own lightning protection systems, it's best to have a certified professional install a lightning rod and grounding system according to accepted engineering practice.

In the past few years, several homes and businesses in the local area have been incinerated by lightning strikes. These strikes could have been easily prevented by the installation of a lightning rod system! As far as humans are concerned, there have been several lightning-related deaths and injuries which could have been prevented! Although surprise strikes are always a possibility, there are a few simple rules which can help prevent lightning injuries. These are: "When thunder roars, go indoors." and "If you can see it, flee it!" And of course, the old adage about avoiding trees is still valid! Trees are lightning's favorite targets!

The first of these is obvious: Thunder can be heard for about fifteen miles from the lightning strike. Coincidentally, that's also the distance from a thunderstorm from which lightning has been known to strike! The second is also obvious: If you can see lightning then it's time to get into a sturdy building.

As happened to me many years ago, the lightning stroke can hit somewhere else and still kill or injure you ... sometimes from several miles away! Although, practically nothing can survive a direct hit from a lightning bolt, frequently damage is caused by a portion of the charge traveling electrical cables or phone lines. This can cause what's called "Surge voltage." Frequently, however, surges can be protected against by using surge protectors. My personal favorite to protect my computers and ham radio equipment is the Tripp Lite Isobar Surge Protector. Not only is it my favorite; it also comes with a \$50,000 insurance policy against damage. The link is shown below.

From time to time, you hear about folks who've survived lightning strikes. It's unlikely that these folks have been hit by the bolt itself, but with one of two phenomena called "side stroke" and "step voltage". Side Stroke is caused by the main lightning channel jumping to an adjacent object, such as a wire or tree, etc. Step Voltage on the other hand, is caused by

the surge of lightning traveling through the ground. In this case, it's the ground's electrical resistance that develops an extremely high voltage. It's that voltage being developed between the victim's feet that knocks them for a loop. In the case of livestock, such as cattle, the greater distance between their legs develops a much higher voltage, usually killing them outright. This phenomenon is explained in detail in the Lightning Safety link shown below [at the end of the article -Ed].

If you're ever outdoors and your hair starts standing on end... look out! As shown in the links below, it's a sure sign that lightning is about to strike you, or strike very close to you! In such a case, it helps to get as low as possible. That's because lightning obeys what's called the Inverse Square Law. In other words, if an object is one hundred feet tall is likely to be hit by lightning, reducing its height to fifty feet – or by a factor of two, makes it one divided by two squared or one fourth

(Continued on page 6

as likely to be hit. Reducing it to twenty-five feet – or by a factor of four, make it one divided by four squared – or one-sixteenth as likely to be hit as it was before!

Similarly, if a six-footer scrunches down on the ground so that his hands are resting on the top of his knees and his butt is resting on his heels, making his overall height two feet, then he has reduced his height by a factor of three, and he is one-ninth as likely to be hit as he was before. It's important to note that only his toes and knee caps should be in contact with the ground! By this method the effects of 'step-voltage' will only be felt between the toes and knee cap, which avoids (under ideal circumstances) the almost-always-fatal voltage that occurs between the hands and feet ... that path travels straight through the heart! UNDER NO CIRCUMSTANCES SHOULD YOU THROW YOURSELF FLAT ON THE GROUND! That invites death by having the 'step-voltage' current flow through your heart!!!

RELATED LINKS

Lightning

https://en.wikipedia.org/wiki/Lightning_strike

<https://www.nssl.noaa.gov/education/svrwx101/lightning/faq/>

How Lightning Strikes

<http://www.weatherwizkids.com/weather-lightning.htm>

Where Does Lightning Strike?

http://en.blitzortung.org/live_lightning_maps.php?map=30

Lightning Protection Systems

https://en.wikipedia.org/wiki/Lightning_rod

http://www.lightningsafety.com/nlsi_lhm/lpts.html

<https://www.ul.com/wp-content/uploads/2014/04/LightningProtectionAG.pdf>

<https://www.lightningprotection.com/surge-protection/>

<https://www.statefarm.com/simple-insights/safety/protecting-your-house-when-lightning-strikes>

Lightning Safety

<http://stormhighway.com/safety.php>

Tripp-Lite Isobar Surge Protector

<https://www.tripplite.com/isobar-8-outlet-surge-protector-12-ft-cord-3840-joules~ISOBAR8ULTRA/>

Medical effects of Lightning strikes

<https://lightninginjury.lab.uic.edu/overview.htm>

<https://www.redcross.org/take-a-class/cpr/performing-cpr/cpr-steps>

<https://www.youtube.com/watch?reload=9&v=cosVBV96E2g>

<https://www.nbcnews.com/healthmain/decades-later-hair-raising-photo-still-reminder-lightning-danger-6C10791362>

<http://www.abc.net.au/news/2010-01-19/woman-endures-hair-raising-lightning-ordeal/1214298>

Atoms and Elements

https://en.wikipedia.org/wiki/Chemical_element

<https://www.livescience.com/37206-atom-definition.html>

AARC Meeting Info

Tuesday, May 7, 2019 / 7:00pm to 9:00pm

Location: Applied Research Laboratories
10000 Burnet Rd., Austin TX 78758

Main Presentation

FT-8 Tutorial/Ops. Intro to FT-8 digital mode
by John Paul (JP) KG5ZZB
(Not a typo... JP was unavailable last month)
Solar Wx Summary
by Lew Thompson, W5IFQ

Upcoming Amateur Exams: 2019

ARRL VEC - May 4th and June 1st
9 a.m. At Bethany United Methodist Church.
Room 203/204. \$15 fee. For more info, contact:
Joe Makeever, W5HS (512-345-0800)

W5YI VEC - May 18th and June 15th
2 p.m. In Room 118, Fleck Hall,
St. Edwards University. \$14 fee.
For more info, contact:
Craig, AC5KW [at] ARRL.net

2019 - Calendar of Events

May 4 – Austin Mini Maker Faire

Parmer Event Center, Austin TX
Volunteers needed at AARC's Booth (4 or so, in shifts)
Hands-on EM demos & experiments and a live voice &
digital Amateur Radio station.
Contact Jeff: N5MNMW [at] arrl.net

May 11 – PARC Annual Swapfest

Location: City of Amarillo Drainage Utility Dept 1900 Line
Avenue, Amarillo, TX 79101
Sponsor: Panhandle Amateur Radio Club
Talk-In: 146.94 (PL 88.5)
Contact: John K5IT Phone: 806-414-3926
Email: panhandlearc [at] gmail.com
Website: <http://w5wx.net/>

May 17-19 – Dayton Hamvention

Greene County Fairgrounds and Expo Center
Xenia, Ohio. ARRL National Convention
<http://hamvention.org/>

Jun 7-8 – Ham Com

Plano Event Center, 2000 East Spring Creek Parkway,
Plano, TX 75074
<http://www.hamcom.org/>

Jun 22-23 – ARRL Field Day

<http://www.arrl.org/field-day>
*[I expect the June AARC meeting will include a discussion on
club participation in detail. -Editor]*

Aug 2-3 – Austin Summerfest

Crowne Plaza Hotel, 6121 North IH-35, Austin, TX
NE corner of IH-35N and US 290E
ARRL Special guest speaker - Norm Fusaro, W3IZ
<http://austinsummerfest.org/>

Aug 24 – AARC 100th Year Banquet

6-9pm, Saturday, Aug 24th at Frieda's Seafood Grill
Along with the festivities, enjoy a four-course gourmet
meal and soft drink/tea. **\$43 per guest** (includes gratuity).
Special guest speakers, recognition awards and gift bags
are planned. Club members will have first opportunity on
the ~70 seats. For info, please contact Lori (KM5MQ)
512-632-6789 or email KM5MQ [at] ARRL.NET
Watch for more details and payment options on the
www.AustinHams.org website.

Oct 19 – South Texas Hamfest & Electronics Expo "TEXAS' FASTEST GROWING HAMFEST"

San Patricio County Fairgrounds - Event Center.
Located at 219 W. 5th Street, Sinton, Texas.
Doors open to the Public 8:00AM - 3:00PM
southtexashamfest@gmail.com or call 361-947-5665
<http://southtexashamfest.org/> for details

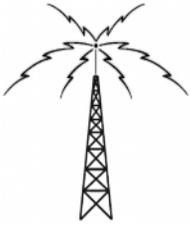
Oct 21-25 – ARRL School Roundup

Sponsors- ARRL, its Hudson Division Education Task Force
and Long Island Mobile Amateur Radio Club (LIMARC).
Objective: To exchange QSO information with elementary,
middle, high school or college club stations. Non-school
clubs and individuals are encouraged to participate.
www.arrl.org/school-club-roundup

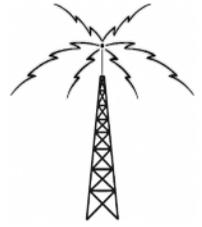
Stay updated on SCR. Send an email to:

SCR-L-subscribe@yahoogroups.com

More info & events listed in the [SwapNet Newsletter!](#)
Visit <http://austinhams.org/swapnet>



Over the W/W/Waves...



Executive Order on EMP Preparedness - DE K5FNI, Rick

This came in today from an engineer friend of mine. I thought it worthy to pass on, especially in light of recent conversations [on the club reflector -Editor]. <https://inhomelandsecurity.com/executive-order-emp-preparedness/>

Faster than a speeding bullet... Not exactly. But FT8 now has competition! - DE ARRL

Faster, More Contest-Friendly FT4 Digital Protocol to Debut in a Week (sic)

<http://www.arrl.org/news/faster-more-contest-friendly-ft4-digital-protocol-to-debut-in-a-week>

[UPDATED: 2019-04-24 @ 1818 UTC] A new, speedier, more contest-friendly digital mode is just days away, initially in beta form. WSJT-X developers say serious work on the new FT4 protocol began shortly after the FT8 Roundup held last December 1 – 2. The goal was a mode that could compete with RTTY contesting in terms of contact rates, while preserving many of the benefits of FT8.

"Over the past month a small group of volunteers have been conducting on-the-air tests of FT4," the WSJT-X Development Group — Joe Taylor, K1JT; Steve Franke, K9AN; and Bill Somerville, G4WJ — announced this week. "The early tests were very successful and helped us to make a number of important design decisions. We believe FT4 has considerable promise for its intended purpose."

The developers say FT-4 soon will be ready for testing by a larger group and they're seeking interested participants who can offer their "considered feedback." They suggest reading The FT4 Protocol for Digital Contesting first. A general release of the WSJT-X suite that includes FT4 is anticipated in July.

According to the document FT4 is an experimental digital mode designed specifically for radio contesting that — like FT8 — uses fixed-length transmissions, structured messages with formats optimized for minimal contacts, and strong forward-error correction. Transmit-receive sequences are 6 seconds, making it 2.5 times faster than FT8 and about the same speed as conventional RTTY for radio contesting. FT4 can work with signals 10 dB weaker what would be required to decode RTTY while using much less bandwidth.

Transmissions last for 4.48 seconds, compared to 12.64 seconds for FT8. Modulation uses four-tone frequency-shift keying at approximately 23.4 baud, with tones separated by the baud rate. The occupied bandwidth is 90 Hz.

Here is the proposed schedule related to the FT4 beta version rollout.

April 29: Second announcement, with links to downloadable installation packages for WSJT-X 2.1.0-rc5

May 9, 0000 – 0100 UTC: FT4 practice session, 7.090 MHz

May 14, 0000 – 0100 UTC: FT4 practice session, 7.090 MHz

June 5, 0000 – 0100 UTC: FT4 practice session, 7.090 MHz (if needed)

July 15: General Availability (GA) release of WSJT-X 2.1.0.

More links with additional info:

<http://physics.princeton.edu/pulsar/k1jt/wsjsx.html> ← Main site

http://physics.princeton.edu/pulsar/k1jt/FT4_Protocol.pdf ← FT4 Protocol document

<https://groups.io/g/WSJTX/> ← WSJT Group

<https://www.icqpodcast.com/news/2019/4/28/new-digital-mode-ft4>

<http://www.southgatearc.org/news/2019/april/ft4-digital-mode-now-available.htm>



President's Corner

It did not work for us to put together a "Texas State Parks On The Air" (TSPOTA) project for this year but we learned quite a bit in some last minutes effort to make it happen. We hope to pull it off in April of 2020, targeting McKinney Falls State Park as our location. I hope you will venture out with us next year to make some contacts on HF.



Our ARES group has been doing some remarkable work and I'm looking forward to hearing the after-action report at our next club meeting.

Speaking of our next club meeting, it is Tuesday, May 7th at the usual location (10000 Burnet Rd, Austin, TX), from 7:00 to 9:00 pm. Please plan to attend and get updates on what is being planned for the **Club's 100th year birthday**. You'll want to get in on our celebration on August 24th as well as commemorative items being formulated.

73 DE WB5WTF

Ruben



Silent Key

Word has reached us this week that **Jimmy Carpetas (KG5SV)** died unexpectedly at his home. A memorial is in the planning stage.

From a Facebook post:

As many of you are aware, we lost a vital part of our Central Texas folk music community in early April, when Jim Carpetas, singer, whistle player and so much more, passed away unexpectedly at his home. With the approval of his family, the May Stone Soup Session will be a memorial session for Jim. Those who knew and treasured him will gather to share songs, tunes, stories and memories on Sunday, May 19th from 2 to 5 pm at the Texas Music Museum, 1009 E 11th St, Austin TX. The Stone Soup Session is a place to share traditional folk songs, tunes and tales from all styles, genres and traditions. Jim loved the session and was a regular member since its inception.

DE K5FNI (Rick)

[I have not received any further information, nor have I found an obituary online. -Editor]



Just For Fun...

Word Search

Can you find all the words listed below in this puzzle? The words are taken from articles, news, events, or *anywhere* in this newsletter. Can you find them in this newsletter?

I X U V P X K H L T W F B L S
 Z J M E K E A D X Q C O Y I Z
 U P S Y X N C K Q F S Q L G D
 C L S M O D U L A T I O N H S
 D E E Y L D T T P T P X E T S
 H X N M A G I O C A P L B N E
 S V D T E D L G N A E L R I L
 A C E S E I H A I C E E Y N E
 F B R R C N I T T T D R P G R
 E P A E K D N R R N A E Z Z I
 T Z P Q N K O I U I T L T Y W
 Y P E I Y N Y H A L B D K X U
 U V R R S Q T V V L S M O T A
 L J P H T D I W D N A B B J J
 N U C L E U S D G K S A Y R E

ATOMS
 BANDWIDTH
 BIRTHDAY
 CENTENNIAL
 DIGITAL

ELECTRONS
 INDIANAPOLIS
 LIGHTNING
 MODULATION
 NUCLEUS

POLICE
 PREPAREDNESS
 REACT
 SAFETY
 THUNDER

This Month In History

1895-05-07 – Russian scientist Alexander Stepanovich Popov demonstrates to the Russian Physical and Chemical Society his invention - the world's first radio receiver in St. Petersburg. Celebrated as Radio Day in Russia.

1908-05-12 – Wireless Radio Broadcasting is patented by Nathan B Stubblefield

1921-05-21 – Oldest radio station west of Mississippi River licensed in Greeley Co

1975-05-06 – Early warnings provided by REACT (ham radio operators) means only

Source: <https://www.onthisday.com/literature/radio>

Action on the Airwaves

Looking for something new to do this new year?
 This is just a sample of the special events stations.
 Check out more [activities on the air!](#)

05/04/2019 | Texas Forestry Museum Special Event

May 4, 1500Z-2200Z, K5F, Lufkin, TX. Deep East Texas Amateur Radio Club Inc.. SSB: 21.365 18.145 14.245 7.245; CW: 7.035, 14.035, 18.085, 21.035; FT8 possible. QSL. W5IRP, DETARC Inc., 904 Sherwood Road, Please note K5F QSO, Lufkin, TX 75904. All QSOs will be uploaded to LoTW. A special picture QSL available via W5IRP address. SASE appreciated. See the K5F page on QRZ.COM. www.detarc.net

05/05/2019 | The INDYCAR Grand Prix

May 5-May 12, 0400Z-0400Z, W9IMS, Indianapolis, IN. The Indianapolis Motor Speedway Amateur Radio Club. 18.140 14.245 7.245 3.840. Certificate & QSL. Indianapolis Motor Speedway Amateur Radio Club, P.O. Box 30954, Indianapolis, IN 46230. www.w9ims.org

05/11/2019 | Centennial Celebration of San Antonio Radio Club

May 11, 1500Z-2100Z, W5SC/100, San Antonio, TX. San Antonio Radio Club. 14.260. QSL. SARC, PO Box 4263, San Antonio, TX 78265. SASE required. Club members may operate their own stations, signing "own-call/100" during 2019. Club station will operate from San Antonio Museum of Science and Technology (www.samsat.org). www.w5sc.org

/12/2019 | National Police Week 2019

May 12-May 19, 0000Z-2300Z, K7P, Prineville, OR. Cops Contest Club. 28.450 21.325 14.275 7.205. QSL. Jerry Boyd, 6033 SE Riordan Rd., Prineville, OR 97754. SASE required for commemorative QSL exlasd@msn.com

05/17/2019 | EMS Week 2019

May 17-May 27, 0000Z-2359Z, W9A, Wisconsin Rapids, WI. Wood County ARES/RACES. 14.275 7.275 3.975; WI WX Tac - Bramdmeister 31550. QSL. Wood County ARES, Attn: W9A, 3530 Bohn Dr., Wisconsin Rapids, WI 54494. QSL - SASE- #10 envelope Email w9wca@winlink.org with questions. W9wca.com

05/20/2019 | The Indianapolis 500

May 20-May 27, 0400Z-0400Z, W9IMS, Indianapolis, IN. The Indianapolis Motor Speedway Amateur Radio Club. 18.140 14.245 7.245 3.840. Certificate & QSL. Indianapolis Motor Speedway Amateur Radio Club, P.O. Box 30954, Indianapolis, IN 46230. www.w9ims.org



Upcoming Meetings...

May	June	Austin Meetings/Happenings	Time	Address
7	4	AARC Meeting @ Applied Research Labs.	7:00pm	10000 Burnet Rd
28	25	Travis County ARES @ Applied Rsrch Labs	7:00pm	10000 Burnet Rd
23	27	CERT Meeting @ TBD (see Link / Contact)	7:00pm	TBD
7	4	CTDXCC Meeting @ Mimi's Café	6:30pm (dinner @ 5:15pm)	10515 N Mopac Expwy NB Bldg O, Austin

If your club is listed here and has incorrect time or dates, please let us know!
Email: editor [at] austinhams.org

Periodic Events

Sun	7:00 p.m.	Travis Co. ARES net	147.360 MHz - (131.8)
	CANCELED	Travis ARES Packet (*in UNPROTO mode)	145.730 MHz
Sun	2359-Wed 2359	Travis Co. ARES WinLink Wednesday	145.730 MHz
Sun	8:00 p.m.	Williamson Co. ARES net	146.640 MHz - (162.2)
Sun	9:00 p.m.	ARO SwapNet	146.940 MHz - (107.2)
Mon	7:30 p.m.	STX ARES Net	3.873 MHz
Tue	7:30 p.m.	Hays ARES net	147.100 MHz +
Tue	8:00 p.m.	Bastrop ARES Net	443.750 MHz + (114.8)
Wed	11:30 a.m.	Ham Social Luncheon, Jim's	146.940 MHz - (107.2)
Thu	9:00 p.m.	2m SSB Net	144.250 MHz (USB)
Thu	11:00 a.m.	Lunch, Pokey Joe's 183&Great Hills	444.100 MHz+
Thu	11:45 a.m.	Lunch, Whataburger Oltorf & Burleson	146.940 - (107.2)
Fri	8:00 p.m.	6m SSB Net	50.230 (texasvhf.org/)
Sat	7:00-8:30 a.m.	Breakfast @ Waterloo Ice House	444.100 MHz +
Sat	9:00 a.m.	Chapter 67 QCWA QSO Net.	3.920 MHz LSB
Sat	7:00 p.m.	AARC Elmer Net	146.940 MHz - (107.2)
Daily	6:30 p.m.	Central Texas Traffic Net	147.140 MHz+

THIS SPACE FOR "RENT" (aka *Call For Articles*)

For "Rent"? Sort of... Rather, do you have any news of interest to the AACROVER readers. Have you run across some amateur radio related news items? How about links to homebrew projects or new equipment? I've run out of prepared material and am interested in articles for publishing in this newsletter. Personal experiences are fantastic! Have you worked or played with a new technology - like the digital methods mentioned in this newsletter? Or maybe you're one of the more experienced operators in our community. What changes have you seen in amateur radio throughout the years?

You don't have to be a Pulitzer Prize winner to submit an article. I'll take anything, but would love to get articles that are at least two pages in length (single-spaced). Photos are great, too! Please remember, any submissions need to be free of copyrights. Creative Commons are okay, but I will need references to be able to publish them with attribution.

Thanks & 73 DE K5MSK, Editor

Minutes of the Regular Membership Meeting of April 2, 2019

The Austin Amateur Radio Club (AARC)

Meeting held at the Applied Research Laboratories, 10000 Burnet Rd., Austin TX

The meeting was called to order.

New Members and Guests:

Charlie ?5TKE
Ted WA5MOD
Rich KI5DRE & KI5DRK

Ham of the Month: John Paul (JP) KG5ZZP

Paul Gilbert got up and talked about the value of ARRL membership. He's up for re-election and asked everybody for their votes.

The 100th Anniversary celebration dinner was announced. It's Saturday August 24 at Frida's restaurant, from 6 to 9 p.m., there will be a T-shirt and gift bag at it will cost \$43 per attendee.

Michael Marks gave an update on Winlink Wednesdays. Sounds like more people are joining.

? is looking for two people to be operators for the MS Bike Ride at COTA on April 28.

Stuart & Marie gave an update about scholarships. We're giving out \$7,500 to three recipients this year and have given out approximately \$333,000 in scholarships since it was started in the 1990s.

Paul Gilbert got up again to mention that he'll take out to dinner anyone from the club attending the upcoming Dayton Hamvention in May.

Kerby talked about this weekend's Commex 4 exercise down at Camp Swift. He mentioned that a dozen Texas counties are participating this year and they expect more when the next exercise is held. The purpose of the exercise is to simulate a "really bad day" and to report on critical infrastructure through a communication chain that eventually reaches the Army at Ft. Huachuca, AZ.

Lew presented the latest on solar weather, including a sunspot event this last month.

Lew discussed the history of the creation of the Austin ionosonde and showed how it was constructed.

Submitted by Mark Jenkins, Treasurer



Austin Amateur Radio Club, Inc. / PO BOX 4739 / AUSTIN TX 78765-4739 / Web site: <http://www.austinhams.org>

The Austin Amateur Radio Club, Inc. (AARC) has annual membership dues of \$20.00 per person or \$30.00 per family.

REPEATERS

AARC maintains the following repeaters:

Frequency (MHz)	PL Tone (Hz)	Use / Notes
146.780 (-)	-	2m D-STAR repeater [W5KA C]
146.880 (-)	107.2	Analog/Digital Fusion (Yaesu)
146.940 (-)	107.2	Most popular, TCARES WxNet, SwapNet
224.800	-	-
440.650 (+5)	-	70cm D-STAR repeater [W5KA B]
444.100	-	-
444.200	107.2	-
1293.100 (-20)	-	23cm D-STAR repeater [W5KA A]
1248.200	-	23cm D-STAR DD (data, simplex/Reversible) [W5KA A]

Persons using the repeaters are encouraged to join the club to help support these valuable resources.

Note: **No** AARC repeater has **autopatch** capability any longer.

The Austin Amateur Radio Club offers annual scholarships to licensees living in Travis, Williamson, Bastrop, Hays, Blanco, Caldwell, and Burnet counties. Please see <http://austinhams.org/scholarships> for more information.

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* Replace [at] with @ in email addresses.

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Members and other readers are encouraged to submit material for publication. Contact the Editor, if mailed submissions are required. Email and/or electronic files are encouraged! Submissions may be edited for publication (for content and/or space). **Deadline is usually the 25th of each month**, but late articles may be considered for future publication. Material may be used in a later issue. Unless otherwise noted, permission is granted to reprint AARCOVER articles, provided you credit the original author and the *AARCOVER*. If material is included in another publication, a courtesy copy to the Editor is appreciated.

AARC Members:

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Contact: Mark Jenkins, W5MPJ / treasurer [at] austinhams.org
Mark handles all changes for membership information.

