



# AARC OVER A

**Keeping Austin Wireless  
for Over 96 Years!**

Bulletin of Austin Amateur Radio Club

ISSN 1067-0262

April 2018

Issue 04-2018

## So... You Wanna Start a University Radio Club?

by Rich Compeau, AG5FA

(This is a multi-part feature over several issues. Stay tuned to get the whole story! -Editor)



### Part IV - The Allstars (node)

When Roy Walker WA5YZD, Kevin Dunlevy N5KOD, and Reed Daughtry installed the repeater they spoke about AARC's desire - and specifically Tom Apel K5TRA's desire - to link the repeater to others. This made perfect sense, and faculty and staff had previously dreamed about linking the repeater. Imagine, having a weekly time slot in which we linked to a remote university that was very different than Texas State? The benefit to the students would be tremendous.

(continued on page 4)

### Periodic Events

Sun	7:00 p.m.	Travis ARES net	147.36 MHz + (131.8)
Sun	8:00 p.m.	Travis ARES Packet (*in UNPROTO)	145.73 MHz
Sun	8:00 p.m.	Williamson ARES net	146.64 MHz - (162.2)
Sun	9:00 p.m.	ARO Swapnet	146.94 MHz - (107.2)
Sun	(After Swapnet)	<i>Newsline</i>	<i>146.94 MHz - (107.2)</i>
Mon.	7:30 p.m.	STX ARES Net	3.873 MHz
Tues.	7:30 p.m.	Hays ARES net	147.100 MHz +
Tues.	8:00 p.m.	Bastrop ARES Net	443.750 MHz + (114.8)
Wed	11:30 a.m.	Ham Social Luncheon, Jim's	146.94 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	444.1 MHz+
Thu	11:45 a.m.	Lunch, Whataburger Oltorf & Burleson	146.94- (107.2)
Fri	8:00 p.m.	6m SSB Net	50.230 (texasvhf.org/)
Sat	7:00 - 8:30a.m.	Breakfast @ Waterloo Ice House	444.1 MHz +
Sat	9:00 a.m.	Chapter 67 QCWA QSO Net.	3.920 MHz LSB
Sat	7:00 p.m.	AARC Elmer Net	146.94 MHz- (107.2)
Daily	6:30 p.m.	Central Texas Traffic Net	147.14 MHz+

### In This Issue

ARTICLES	Page(s)
Ham Exam Results	2
Club Info	3
Cover Article (cont.)	4
Hints -n- Tips; HOTM	5
Over the WWWaves	6
In The News	"
TC-ARES Trailer	7
NVIS Antennas	8
President's Corner	9
Just For Fun	10
Meeting Minutes	11
AARC Meeting info,	12
Meetings, Calendar,	"
Upcoming Exams	"

# Ham Radio Exams Results

The following are the results of the ARRL VE test session held on March 3, 2018 at Bethany United Methodist Church:

## Technician Class Licenses Processed

Alisha L. Gallmeier KG5YSR	Jeanette M. Harper KG5YSS	Joseph B. Jackson KG5YSQ
Steven B. Stanford KG5YST		

## General Class Licenses Processed

Jon C. Harshaw KG5YSU	Bretton B. Holmes KG5VKJ	Nikolai V. Vyssotski KG5YSV
-----------------------	--------------------------	-----------------------------

## Extra Class Licenses Processed

Robert K. Powell KG5VVQ	Clinton N. Silvis N(0)PTU
-------------------------	---------------------------

## Examiners Participating in this Test Session

Joe Bryan K5BRY	Larry Gunter WB5BEK	Joe Makeever W5HS
Jim Matthews KG5QFD	Henry Palmeter W3JMY	Jim Peisker AF5NP
	Donald Sitze AF6VA	

## Next ARRL VE Test Sessions

April 7th - Bethany United Methodist Church, Disciple Bldg. Room 203/204

May 5th - Bethany United Methodist Church, Disciple Bldg. Room 203/204

TNX ES 73 DE W5HS

Joe

---

3-17-18

The South Austin W5YI VE team heartily congratulates the following people who earned new or upgraded amateur radio licenses at our March 17th session:

## Amateur Extra Class

Norbert Rickert, KG5VSG

## General Class

Steven Stanford, KG5YST	George Watkins, KA5NKD	Christopher Cooper, KG5YGD
-------------------------	------------------------	----------------------------

## Technician Class (NEW)

Gary Moore	Emily McKinnon	Hyeonseung Lee
Gregory Aker	Frank Krafka	Kevin Hicks
	Clayton Lawrence	

## Our administering volunteer examiners were:

Craig Bean, AC5KW	Gary Popp, AE5JR
Steve Anness, KJ5T	David Glosson, N5DPG

Our next two amateur radio exam sessions will start at 2 PM on April 21st and May 19th 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@gmail.com**



### **2017 Officers**

President	Ruben Fuentes	WB5WTF	president@austinhams.org
Vice President	Lew Thompson	W5IFQ	vice-president@austinhams.org
Treasurer	Jay Hoffman	KA5OST	treasurer@austinhams.org
Secretary	Carston Buehler	KG5PAL	secretary@austinhams.org
Editor, AARCOVER, website	Michael Skurka	K5MSK	editor@austinhams.org
Technical (Repeater Contact)	Roy Walker	WA5YZD	wa5yzd@arrl.net
ARRL Travis Co. Emer. Coord.	Kerby Spruiell	KG5DLD	ec@austinhams.org
TC ARES PIO	Steven Polunsky	W5SMP	tcares-pio@gmail.net

Please contact a club officer, attend a meeting, or mail us to join the organization.

Sorry... Online membership registration is temporarily unavailable.

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

<b>FREQUENCY</b>	<b>USE</b>
146.780/ -600kHz	2m D-STAR Repeater [W5KA C]
146.880 107.2 PL Tone	Analog/Digital Fusion
146.940 107.2 PL Tone	Most popular, TCARES WXnet, Swapnet
224.800	
444.100	
444.200 107.2 PL Tone	
440.650 +5	70cm D-STAR Repeater [W5KA B]
1293.100/-20	23cm D-STAR Repeater[W5KA A]
1248.200	23cm D-STAR DD (data, simp./reversible) [W5KA A]

Persons using the repeaters are asked 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.

**AARCOVER Information:** ISSN 1067-0262, CODEN AAOVE3. ©Austin Amateur Radio Club, Inc. Published monthly by the Austin Amateur Radio Club, Inc.

Viewpoints expressed in the AARCOVER do not necessarily reflect those of the club, or of its members, directors, or officers. Material quoted from the ARRL Letter is supplied by the American Radio Relay League, Inc.

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 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:**  
**For Changes in your ADDRESS, PHONE NUMBER or CALL SIGN**  
**Contact: Jay Hoffman, KA5OST / ka5ost@arrl.net**  
**Jay handles all changes for membership information.**



We were happy to accommodate the request and as before, knew nothing about what would be required. The linking was to be effected via an Allstar Node, a device that achieved such linking via Voice over IP. Surely we could install such a system and get our BARC1 repeater linked with other AARC repeaters. Tom had graciously offered to build the node if we supplied a few parts - he would provide the balance. How hard could it be?

Parts were ordered but took a couple of weeks to be received due to the incredible deal we got on a \$3 UHF antenna shipped to us from a remote foreign country. Tom also gave us instructions regarding the ports that we would need to be set up in the engineering building, a TCP port (223) and a UDP port (4567), visible from off campus.

My colleague Bill Stapleton AG5GA is a computer engineer and embedded systems expert, so I asked him to help get such ports opened. On October 10th he put in a request to our IT department regarding the ports. Two weeks later we heard back from the campus director of IT security, with a response that had many questions.

I had no idea that a Raspberry Pi on an open internet port could be such a security risk. We were told that currently there exists a new and growing botnet of millions of IOT devices that has been scanning the internet looking for vulnerable systems to add to its ranks. And while our proposed Allstar node would not be handling sensitive data, security wanted to be sure that we would not be installing a device that could become part of a malicious network.

At this point I was quite worried that IT would not grant our request, and that our quest to become Allstars would end in defeat. Roy, always the calm and soothing mentor, assured me that there were other ways. For instance, the node could be hosted at a residence with broadband internet. This was a great contingency plan! Perhaps a faculty member living in San Marcos could accommodate such a request. I said that I'd be happy to host the node, but that my location in Wimberley would require some aluminum in the air. Roy assured me that we could get the node in place and all would be well.

*[Oops! Looks like the conclusion is still in the works. Stay tuned and we'll get you the conclusion as soon as possible! -Editor]*

### ***About the author***

Rich Compeau, AG5FA, is a new AARC member and has been a ham for over 17 months now. He had a 25-year career in the "real" world as a microelectronics engineer & manager before entering academia. An MIT graduate, he is a Professor of Practice and is the Electrical Engineering Program Coordinator at Texas State University, with a doctorate in Applied Electromagnetics (Antennas) - but claims to know very little about real antennas.

# Hints -n- Tips

For info for those with RFI problems using digital modes  
-Stuart Rohre, K5KVH

----- Original Message -----  
Subject: cat6 cable

Message: 5  
Date: Tue, 6 Mar 2018 15:22:43 -0600  
From: Richard Kriss <aa5vu@arrl.net>  
Subject: [CTDXCC] Fwd: Good USB Cable for use with WSTJ-X ?

Shared from my posting to the WSTX-X Yahoo Discussion Group. This one works!

Begin forwarded message:  
From: Richard Kriss <aa5vu@arrl.net>  
Subject: Re: Good USB Cable for use with WSTJ-X ?  
Date: March 6, 2018 at 2:54:14 PM CST  
To: wsjtgroup@yahoogroups.com

If you are tired of seeing the nagging WSTJ-X Rig Control Error message, I have some good news. As you may recall from my previous postings each time I pushed the CDE rotator brake release button WSTJ-X would drop the audio output from the iMac to the Kenwood TS-590SG. The WSTJ-X error options did nothing. The only workaround I had was to quit and restart WSTJ-X, but I finally found one super shield USB Cable in the junk box that worked but it was too short for my setup. I order an Amazon cable that failed, then ordered a Belkin cable that also failed. I could not find a really shielded cable at Fry's, Best Buy or even Home Depot. I asked the Amazon Expert and was advised to use the Tripp Lite Model U023-006. Since the lame Yahoo reflector strips pictures, it's a Tripp Lite Model U023-006 USB 2.0 Gold X Cable A (Male)/B (Male) - 6 ft with two molded-in chokes. Amazon Prime delivered the \$6.51 USB Cable today and it works perfect. I have not seen the Rig Control Error message since installing the shielded Tripp Lite USB Cable. I even tried it with the AL-80B amp running at full output.

Ham Happiness is finding and fixing a nagging RFI issue

73 Dick AA5VU  
Austin, TX



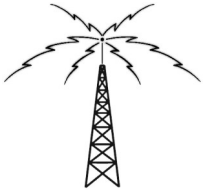
---

## Ham/s Of The Month

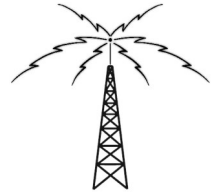
As announced at the March Meeting. Congratulations go to:

Shawn, KG5RHR, Ham of the Month, January 2018  
Kerby, KG5DLD, Ham of the Month, February 2018





# Over the WWaves...



## MMDVM Repeater

Possible build project for the newsletter from just south of Austin.

<https://sadecimalradio.com/make-mmdvm-digital-repeater/>

DE Lester (WD4IFU)

## Electricity. a sudden pulse of voltage or current

Watch this video on your HD TV and sound system. It's cool lightning with even a ball lightning in one scene.

<https://www.youtube.com/watch?v=nBYZpsbu9ds>

73 de k5gp gene

[If this doesn't help encourage you pull your antenna cable before a storm, I don't know what will! -Ed.]



## IN THE NEWS...

QST de W1AW

ARRL Bulletin 9 ARLB009

From ARRL Headquarters , Newington CT March 12, 2018

To all radio amateurs



### ARLB009 South Texas SM Stepping Aside; New South Texas SM Appointed

ARRL South Texas Section Manager Lee Cooper, W5LHC, has announced that he'll step down at the end of March due to time constraints and the workload associated with his consulting business.

"This was not an easy decision to make but one I felt best for the future of our Section," Cooper said in a message to South Texas Section members. "I have been the Section Manager for the South Texas section since 2009. The position, if done well, can be a very time-consuming but very rewarding one. I feel I have spent the past 9 years working to improve all areas of the Field Organization in South Texas.

Thank you for allowing me to lead the section, for accepting some of my crazy ideas and turning them into reality," Cooper told the members. "Please offer your support to my replacement."

Paul Gilbert, KE5ZW, has been appointed to succeed Cooper, starting on April 1, to complete the current term of office that continues through September 30, 2019.

Read the complete article at:

<http://www.arrl.org/news/south-texas-sm-stepping-aside-new-south-texas-sm-appointed>



### REMINDER

**The Austin Amateur Radio Club offers annual scholarships to licensees living in Travis, Williamson, Bastrop, Hays, Blanco, Caldwell and Burnet counties.**

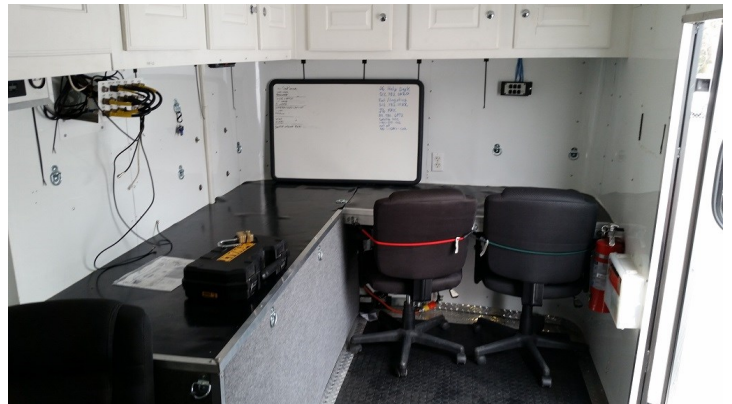
Please see <http://austinhams.org/scholarships> for more information.



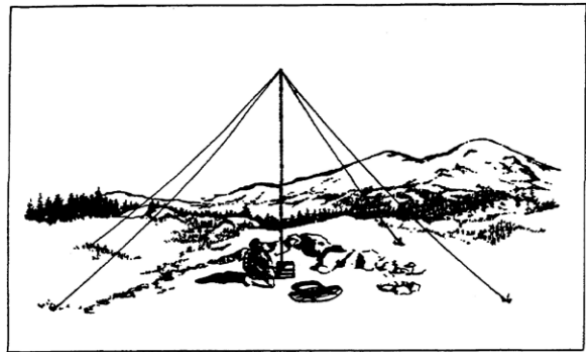
# Travis County ARES EM-COMM Trailer

If you hadn't heard (*where have you been?!), TC-ARES won the bid on a communications trailer recently. The trailer came with a generator and telescoping mast. There's still work to be done to get it ready, and Kerby, KG5DLD, is leading the troops (that's you!) to achieve the goal. The Red Cross has asked to deploy the trailer later this month—if it's ready! Hopefully, we'll get enough volunteers to finish the remaining tasks. Kerby would appreciate hearing from you if you can spare some time. Contact him at [kg5dld@arrl.net](mailto:kg5dld@arrl.net)*

In the meantime, here are a few pictures of the trailer:



# NVIS ANTENNAS



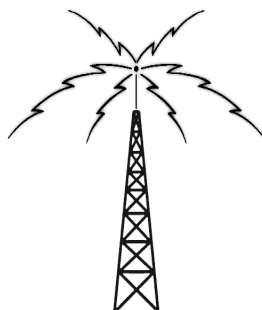
NVIS is defined as “Near Vertical Incident Skywave”, but what does this mean and how do you accomplish it. When you are attempting to communicate with others that may be 100 to 400 miles away, 2 meter FM communications sometimes doesn’t work unless you switch to SSB and have a high gain antenna and will be really frustrating if there are obstacles such as mountain tops between you and the other party you are attempting to communicate with. You can use HF radio but most antennas are designed for low angle of radiation and are not as useful for short and medium distance on a consistent basis. What we want to do is to use an antenna with a high angle takeoff or nearly as vertical as we can so that the first hop is short as possible. If you have ever stood under a large beach umbrella as a child and have someone spray a hose up near the top from the inside you may remember that everyone gets wet. Using a NVIS radiating antenna, the signal acts nearly the same way. If your antenna is designed to radiate straight up, the signal returns from the ionized layers of the ionosphere straight back down, generally in a circular pattern. The size of the signal area will vary according to the height of the ionizing layer, The maximum upper frequency and the maximum lower frequency and of course the output power.

Generally 80 and 40 meters are used the most for Amateur Radio Operators to communicate regionally 100 to 400 miles, but in the last couple of years there are those who have been doing some testing on the 60 meter and even the 160 meter bands. One of the most interesting aspects of NVIS antennas is that high gain is not a necessity, simple dipoles work just great if setup to satisfy the one criteria necessary, send that signal as straight up vertically as you can. In World War 2, NVIS antennas were installed on some mobile vehicles in the German forces and during the Viet Nam conflict, were used by the American military. One of the simplest, is to use a quarter wave antenna mounted near one end of the vehicle and the tip bent over to the other end of the vehicle. Other simple methods are to use a standard dipole mounted 1/10 to ¼ wavelength above ground. Some even use a reflector wire lying on the ground beneath the dipole. There are lots of discussions and designs listed on websites for your consideration or design and experiment with what you think would work well.

Each year the Ohio ARES Section <http://arrl-ohio.org/SEC/nvis.html> in April hosts a day in which Amateur Operators in Ohio test NVIS antennas. This year it will be held on Saturday April 28, 2018. I have participated in the last few years but with my station in North Texas was only able to make contact with a couple of the stations, but then they are were over 400 miles away and so I never heard very many of the stations. I did make contact with a couple of stations here in Texas that were 100-150 miles away with signals well over S9 on 40 meters.

I propose to have clubs or individuals sponsor stations in Texas, Oklahoma, Louisiana and Arkansas to join the testing this year. Ohio ARES will be operating from 10-4 Eastern Time, segmenting the bands to increase the probability of contacts and to allow for antenna experimentation and using 100 watts. 10 - 12 noon 80 meters centered around 3.920 MHz, 12 noon – 2pm 40 meters centered around 7.240 and 2pm – 4pm 160 / 60 meters: Any part of the phone band on 160. Try to stay on Channel 3-5 on 60. Be careful of tuning. I would suggest stations in Central time zone to use the same time schedule 10 am to 4pm but stay with the central time, this would allow the schedules to overlap for one hour in each on the designated bands, interference between Ohio and the Texas area should be minimal using NVIS antennas. Don’t forget to load up your favorite picnic foods and make it a time of great fellowship, Hope to hear you on the air, I will be there.

73 DE K5QOI, Jim McGlynn  
k5qoi@arrl.net  
Grayson County Amateur Radio Club K5GCC



# President's Corner

April 2018

DE WB5WTF, Ruben Fuentes



Most of you probably remember the visiting ham from Nigeria, in January. (See the January club newsletter). He is Andrew (5N9GKA) and after a brief whirlwind business tour of the US, he safely returned to his country and by email expressed his gratitude for the hospitality that our local hams extended to him on his Saturday breakfast visit at the Waterloo Ice House. I heard again from him this past week, after he saw a news piece there in Nigeria about the Austin Bomber. He was praying that none of our hams were adversely affected by the bomber's actions. Talk about enhancing "international goodwill." That's part of what we're about.

We had a window of a couple of months where we were without a club secretary. I'd like to give a special thanks to Carston (KG5PAL) for stepping up to the plate and taking on this volunteer job. He was nominated for and voted in to this position by the membership during our March meeting. The day after that meeting he'd already drafted out and submitted the minutes of the meeting.

I continue to monitor and be amazed at the volume of work being done by Kerby (KG5DLD) and all the other volunteers assisting him on the emergency service trailer that the club recently purchased. Their goal is to have the trailer operational by the time the typical storm/flooding season hits central Texas this spring. I appreciate not only the labor being put into the project, but also the level of organization and record keeping for it. Thanks guys.

As your President, I've had the honor and privilege of collaborating with the club's Scholarship Fund Board Members. The annual deadline for application for funding for high school students in the Central Texas area has recently passed. And we're in the process of reviewing these applications. Decisions will be made soon on the disbursement of funds from club resources specifically set aside for this cause. What a blessing for the club and the selected recipients!

Thank you and 73, Ruben (WB5WTF)

# Just For Fun...

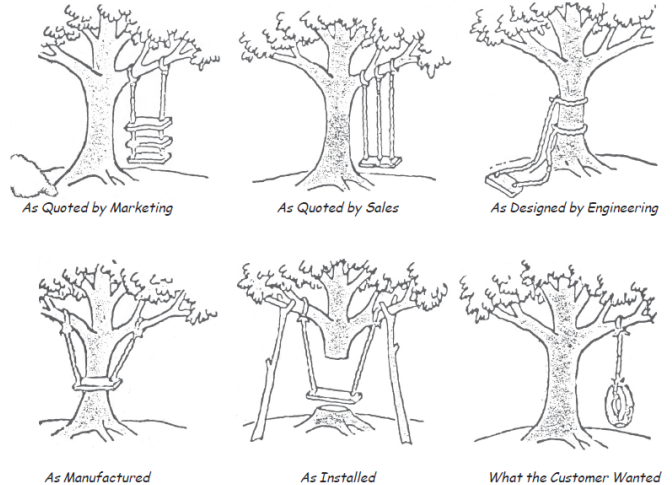
## What's In A Word?

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

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

ALLSTAR	LIGHTNING	SCHOLARSHIP
CABLE	NIGERIA	TRAILER
CLUB	NODE	UNIVERSITY
DIGITAL	RASPBERRY	VOIP
ELECTRICITY	REPEATER	

### COMMUNICATIONS GAP



*This is an example of why clear communication is so important!*

Is your communication on the radio clear and succinct to the other party? Do you use ITU phonetics or make up your own as you go? Was that Kilo Sierra Mike? Or Kilowatt Sugar Mexico?

## Kerchunk!

**FCC Seizes Equipment from Pirate Broadcasters in Boston**  
 DE ARRL - 03/30/2018



The FCC reports that it seized transmission equipment from two pirate radio stations in Boston on March 26. According to court documents, the sei-

zures involved an illegal broadcaster that identified as "Big City" on various FM channels from Dorchester, Massachusetts (with a studio in Roxbury) and pirate "B87.7 FM," which operated on 87.7 FM from Dorchester. Both unlicensed stations had been issued multiple warnings but continued to operate. Pursuant to federal forfeiture statutes, authorities seized equipment operated by each radio station. The forfeiture actions came in the wake of complaints to the FCC — including one from a licensed broadcaster — about interference, the FCC said.

[...]  
 Over past year, the FCC has significantly ramped up its enforcement activity against unlicensed broadcasters, netting at least *two Amateur Radio licensees* alleged to be involved in pirate broadcasting. [Emphasis added. -Ed.]

[...]  
 Read the complete article at:  
<http://www.arrl.org/news/view/fcc-seizes-equipment-from-pirate-broadcasters-in-boston>

# AARC General Meeting, 6 March 2018

## Meeting Minutes not available at publication time.

*Newsletter will be updated later, upon receipt.*



This space available for tidbits. Got some? Send 'em to editor [@austinhams.org](mailto:@austinhams.org)

## AARC Meeting Info

Tuesday, April 6, 2018 / 7:00pm to 9:00pm

**Location:** Applied Research Labs  
[10000 Burnet Road, Austin TX 78758](http://www.appliedresearchlabs.com)

### **Meeting Topic:**

Solar Powered High-Performance Amateur/MARS  
Radio Station by Lew, W5IFQ  
and Solar WX Summary by Lew, W5IFQ

Officers normally meet from 6:00 to 7:00p.m. prior  
to regular club meetings and is open to all.  
Contact an officer for more information.

## **2018 - Calendar of Events**

### **Apr 6-7 - HamEXPO! Spring**

Bell County Expo Center- Belton, Texas  
Admission Fee \$5 per person, includes one free raffle ticket (\$2  
value). Children under 12 free.  
<http://www.tarc.org/hamexpo> / w2cat @arrl.net

### **Apr 7-8 - Texas State Parks On The Air (TSPOTA)**

Now sponsored by the Lake Area Amateur Radio Club (K5LRK),  
Please join us as we continue the Texas State Parks On The Air  
event! Activate a State park. <http://www.tspota.org/>

### **Apr 9-May 12 - Central States VHF Society VHF and up Spring Sprints**

Stations will be classified as either Single Op or Rover(at least 2  
grid squares).  
<https://sites.google.com/site/springvhfupsprints/home>

### **Apr 18-29 - MS-150 HOU-LaGrange-ATX Bike Ride**

### **May 5-6 - Maker Faire Austin**

Palmer Events Center  
AARC will have a booth with a hands-on demo of EM Physics  
and practical applications. Also, a live Amateur Radio Voice &  
Digital station. If you want to help, contact Jeff at  
N5MNW ARRL.NET — <https://makezine.com/>

### **Jun 8-10 - HAM-COM is returning to Plano!**

Plano Event Center / Return of the Outdoor Swap Meet  
Talk-in: Primary - 146.720 pl 110.9 / 2ndary: 147.180 pl 107.2  
<http://www.hamcom.org/>

### **Jun 22-24 - ARRL Field Day**

**Jul 26-29 Central States VHF Society, Inc. Conference**  
Conference to be held in Wichita, KS  
Conference website: <http://www.2018.CSVHFS.org/>

**Aug 3-4 - Austin Summerfest** <http://www.AustinSummerfest.org/>

### **Apr 6-7 - HamEXPO! Spring**

Bell County Expo Center- Belton, Texas

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

## Upcoming Amateur Exams: 2017

### **ARRL VEC - Apr. 7th & May 5th**

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 - Apr. 21st & May 19th**

2 p.m. in **Room 118**, Fleck Hall,  
St. Edwards University. \$14 fee.

Contact Craig  
AC5KW @ ARRL.net  
for more info. \$14 fee.

## **Upcoming Meetings...**

<b>Apr.</b>	<b>May</b>	<b>Austin Meetings/Happenings</b>	<b>Time</b>	<b>Address</b>
3	1	AARC Meeting @ Applied Research Lab	7:00 p.m.	10000 Burnet Rd
23	22	Travis County A.R.E.S. @ Applied Rsrch Lab	7:00 p.m.	10000 Burnet Rd
26	24	CERT Meeting @ TBD (see <a href="#">Link</a> / <a href="#">Contact</a> )	7:00 p.m.	TBD
23	28	CTDXCC Meeting @ Old Quarry Library	6:30 p.m.	7051 Village Ctr Dr

*If your club is listed here and has incorrect time or dates, please let us know! editor @ austinhams.org*

**Visit our website at <http://austinhams.org/>**