AARCOVER

Keeping Austin Wireless for Over 96 Years!

Bulletin of Austin Amateur Radio Club ISSN 1067-0262

March 2018 **Issue 03-2018**

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 III - BARC Calling AARC!

It was July 19th, 2017. We'd had a repeater construction permit for nearly nine months, and a UHF antenna on the roof of the engineering building for about four months. By now, BARC had very few meetings which usually were only a couple of the officers, as student interest had completely fizzled.

BARC Co-Advisor Bill Stapleton AG5GA, who'd had his ham license for 13 months at that time, had been looking into all sorts of repeater hardware options, such as used equipment, kits to connect HT's, and other low-budget approaches. We were ready to make modest personal expenditures to get BARC on the air – but what to get? We did not have any hands-on experience.

(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)*	*Newsline*	*146.94 MHz - (107.2)*
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

Ham Radio Exams Results

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

Technician Class Licenses Processed

David R. Carley KG5YGH	Christopher A. Cooper KG5YGD	Mark A. Curran KG5YGF
Culver L. Duderstadt Jr. KG5YGE	Carl W. du Plessis KG5YGT	Roger L. Heslop Jr. KG5YGB
Mathew R. Lopez KG5YGC	Matthew W. Mehalic KG5YFX	Caleb A. Severn KG5YGG
Sonja M. Thomas KG5YFZ		

General Class Licenses Processed

Adam T. Bartlett KG5YGA	William L. Machmer KG5YFY	Robert S. Robinson III KG5WTV

Extra Class Licenses Processed

Malcolm M. Scholl KB5RUE	Keith A. Yarbrough KG5WRC

Examiners Participating in this Test Session

Gary Becker AF5QB	Mark Esslinger W5MAE	Larry Gunter WB5BEK
Rick Herndon K5FNI	Gene Hinkle K5PA	Joe Makeever W5HS

Next ARRL VE Test Sessions

March 3rd - Bethany United Methodist Church, Disciple Bldg. Room 203/204
April 7th - Bethany United Methodist Church, Disciple Bldg. Room 203/204

TNX ES 73 DE W5HS
Joe

2-17-18
The South Austin W5YI VE team heartily congratulates the following people who earned new or upgraded amateur radio licenses at our February 17th session:

Amateur Extra Class

Matthew Mehalic, KG5YFX

General Class

Kevin Triplett, KG5VDC

Technician Class (NEW)

Rohan Sikdar	Stephen Jung	John Hargett
Ronald Victorino, Jr.	Trent Redfern	

Our administering volunteer examiners were:

Craig Bean, AC5KW	Gary Popp, AE5JR
Sam Mihalik, KM5MY	Bill Duke, AF5JD

Our next two amateur radio exam sessions will start at 2 PM on March 17th and April 21st 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	Joe Talafous	KG5QVW	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:

FREQUENCY	USE
146.780/ -600kH	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.

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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 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.

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Seeing that the Austin Amateur Radio Club had a Technical Committee with published contact information, I had taken a chance and written an email explaining our situation.

Six hours later, to the minute, I received a response from Stuart Rohre K5KVH stating that he was forwarding my email to other individuals who might be able to help. Early the next morning there was an email in my inbox from Roy Walker WA5YZD with an amazing message: *"…your need for equipment can be met with hardware we have available... I think we can put together some components that will get Texas State equipped with hardware that will jump-start your plans."*

Could this be too good to be true? Or were we in for another nine-month wait? Not quite - *within 38 minutes Roy was working to set up a campus visit to scope out the job.* Wow! Two days later Roy again contacted me saying that he had found a Yaesu DR-1X that we might use as a loaner from Tommy Taylor, WD5EMS.

In short order Roy and Reed Daughtry visited our campus to scope out the installation. Not only were they extremely professional and courteous but they also offered a solution to another amateur radio problem that I faced.

The School of Engineering had purchased a Flex 6700 for instructional purposes and I was tasked with getting it on the air on some HF bands. We had considered a long wire dipole on the roof but that would have required another conduit down the side of the building in addition to another round of approval and funding. And the construction crew was occupied with the new Engineering & Science Building. Roy and Reed suggested placing an end-fed sloper antenna from the roof down to the patio, which not only simplified installation but obviated the need for another coax run. This would be a configuration we could do on a simple, local work order. Amazing!

Emails were received in rapid-fire regarding the repeater. Within a few days, pictures of a refurbished cabinet along with the beginnings of mechanical mounts for the repeater appeared in my inbox. But wait - I thought that it took 6+ months to construct a repeater...

Things were coming together! I wrote a Memorandum of Understanding for Tommy Taylor to ensure that Texas State understood - in writing - that his DR-1X was a loaner and not a donation. Roy, et al were making great progress on the repeater construction. The next step was to tune the duplexer for 442.700 operation and Tom Apel K5TRA performed this operation.

Roy and associates were moving along at a rapid pace and the BARC1 repeater was on the air up in Austin! We started calling it BARC1 because I offered to host as many repeaters as AARC might want to install at Texas State. Plus, it sounded cool.

The repeater was ready and the only thing delaying its installation was the author of this article, who had foolishly signed on to teach two upper-division courses over the Summer Session: Electromagnetics, and Signals & Systems. If you studied EE, then you know what this means. If you did not, well, you do not want to know!

September 8th was to be the day! All the preparatory work had been done at the university, and an escort had been arranged to take us up to the roof. Three students had volunteered to help with physical labor. About half an hour before the planned arrival I received a phone call to notify us that Roy, Reed, and Kevin Dunlevy N5KOD were at a local restaurant having coffee and would soon be on their way. Having never seen a repeater installed before - much less ever having even seen a repeater - we didn't know what to expect. Surely it would take all day to install

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and test and given Murphy's Laws probably would not be on the air for awhile.

You may know that Austin is fortunate to have a world-class race facility, the Circuit of the Americas (COTA), and to host events such as the Formula 1 United States Grand Prix. Racing is exciting to watch in almost every regard, including the support crews. We learned on September 8th that the COTA pit crews have nothing on Roy, Reed & Kevin! They arrived in a team pickup truck that appeared to have been professionally packed. Within minutes the gear was loaded onto a pallet dolly and was on its way to the 5th floor of the Roy F. Mitte engineering building.

The repeater was to be installed on the exterior, secure patio of the SMART (System Modeling & Renewable Technology) Lab. Once on the patio these individuals went into pit crew mode. We quickly realized that our best course of action was to stay out of their way unless asked to give specific assistance!! I'd brought a DSLR to record the momentous occasion and made good use of the telephoto zoom lens. In this manner, the action could be captured without being underfoot. *Note to photo buffs: I had to use a FAST shutter speed and focus servo tracking - these guys were QUICK!*

Roy used a time-domain reflectometer to test the heliax for continuity and it checked out. The repeater and duplexer were installed in the enclosure and connected and then it was time to go to the roof. The university construction crew had not installed connectors on the heliax and the N connector on the antenna was loose. Watching the AARC crew put everything together, apply weatherproofing, and then secure everything was pure poetry in motion.

Then it was back to the patio to check the SWR before powering up. Our electrical engineering program had purchased a FieldFox portable network analyzer. Upon Roy's suggestion, I'd previously gone up to the roof to check the antenna. Apparently, there are several sub-models of DB-404 and we had one that had good resonance at our output frequency! I had measured an SWR of 1.37 at 442.700 MHz at the antenna, and Roy later measured a good SWR at the heliax feed point down on the patio. It was time to power up and give it a go!

Keep in mind that not even 2 hours had elapsed since their arrival and we were live and on the air. You may know that the fastest Formula 1 tire change to date was performed by Felipe Massa's team at the European Grand Prix in 2016, taking only 1.92 seconds to change all four tires. I would not be surprised if Roy, Reed and Kevin had been on that pit crew, or at least trained with them!

Soon their job was complete, they were packed up, and ready to head out. We stopped for a relaxing lunch on the way. On the other side of I-35 from campus and inside a building, facing away from campus we were able to clearly communicate via the repeater with our HT's! This was tremendously exciting because it implied that students would be able to access the repeater from their oft-frequented places such as buildings on campus, dorms, and the bars downtown.

During the next week, we received reception reports from the I-35/290 flyover, 1st & Ben White, downtown New Braunfels, west of Wimberley - the repeater was providing excellent coverage! Several of us at school started calling in on our mobile rigs, or carrying HT's with us in the buildings. An emcomm practice net started up, and after running it a few times, BARC student members took over and ran the net! Everything was going great, until...

It was a stormy and rainy afternoon. I had finished teaching at 2pm and decided to head home as the storm was predicted to intensify that afternoon. While on the mobile I called in but BARC1 was down! There was no squelch tail nor auto-ID. I hoped that it was something simple, such as the GFI

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on the patio outlet had popped.

The next morning, I went out to the patio by myself (the patio is generally off-limits to students, and other faculty hadn't yet arrived) and did not hear the fan in the repeater enclosure, which was good news. While a lightning strike above to the building's lightning rods might have knocked out the repeater, it perhaps might not have taken out the muffin fan. Lifting the weather cover on the power outlet, I saw that the power plug was large and covered the reset/test button so that the status could not be visually ascertained. It was a simple matter to unplug the cord and to my relief the GFI had popped! We probably would be OK!

After resetting the GFI I crouched down to plug the power cable back in and then froze in mid-motion. There were pools of water on the patio and I was standing in one. Six inches to the left was the wet and well-grounded repeater cabinet, and to the right was a drenched bench made of metal and bolted into the patio floor. Perhaps it would be wise to test the GFI first. I know how they work and that if working properly they are supposed to protect you, but... The test was successful but I was still nervous to proceed with plugging in the power cord.

In the end, everything turned out satisfactorily, as evidenced by the existence of this story.

Stay tuned for the finalPart IV, The Allstars (node).

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.

Secretary Position Available, Nominations Open

Unfortunately, our Secretary has resigned and the Club needs a secretary. We will be taking nominations at the next meeting, Tuesday, March 6th. Keeping minutes and taking attendance at the club meetings are important tasks and we would appreciate anyone who can step up and volunteer for this position. You don’t have to have perfect grammar or spelling (the editor will help with that), so don’t hesitate to put your name in the hat for the job! Don’t worry……. Job duties do not including making coffee for anyone!

Over the WWWaves...

Scotty, We Need More Power!

A low-loss transfer switch between a 13.8V power supply and a 12V backup battery is available from: http://ki0bk.no-ip.com/~pwrgate/LLPG/Site/LLPG.html
It uses power MOSFET transistors to handle up to 25A at very low voltage drop (<20 mv). Useful for those providing emergency comms from home.
--
DE K5GM, Pete Jordahl, k5gm amsat.org

Practice Makes Perfect… Well… Practice.

Looking to upgrade your license? Or you're new here and are just starting out? There are many online ham license study sites and smart phone apps. We're not endorsing any particular ones, and we're leaving it to you to decide which is best for you. But here's one website that the Editor stumbled on that has a cool "flash card" style of study. You can create an account to track your progress, or you can just practice as a guest. Either way, it will help reinforce specific questions that need attention and move on to other areas when you're ready. Check it out at: https://hamstudy.org/

No News Is Good News?

The jury (or Senate Committee, in this case) is undecided on this one. The Amateur Radio Parity Act of 2017 is still being held up in the Senate Committee on Commerce, Science and Transportation. At this point, it's looking less and less likely that it will be enacted this session. To keep tabs on it, see:
Senate Bill S.1685 - https://www.govtrack.us/congress/bills/115/s1534
House Bill H.R.555 - https://www.govtrack.us/congress/bills/115/hr555
Based on the failure in the previous session (Senate report), there are doubts that it will succeed this session.

Cool New Product

MFJ has a new Microphone Control Center (MFJ-1263) to mix and match any two microphones to any two transceivers. You can control with a PTT foot switch or via computer or voice keyer to free your hands. It reportedly works with any radio - Kenwood, Yaesu, Icom, Alinco and compatible transceivers. It even has an input jack with on/off switch to insert external audio - great for inputting sound card, AFSK, TNC and other audio sources. Reminder: This is not an endorsement of the product. Just letting you know a new product is out there. 😉 Found at: http://qrznow.com/mfj-1263-mic-rig-switch-2-mic-to-2-rig/

REMINDER

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

President's Corner

March 2018
DE WB5WTF, Ruben Fuentes

So much is happening within the club and it seems to be happening fast. Club members stayed busy with the acquisition of a couple of emergency operations trailers that the Texas Military Forces had auctioned off. Kerby (KG5DLD) has done an excellent job of spear-heading work days to get the primary trailer up to par. Thank you to all of you who have chipped in with your skills, knowledge and labor to make this happen. And a special thanks to those of you who have donated monetarily for funding of this project. We still welcome donations and they will apply to off-setting the costs for all of the repairs and upgrades that are being done to the trailer. I have personally made multiple trips out to the American Red Cross where all the work is occurring and am impressed with the evolution I see from the trailer that was, to what it has become even at this point before the radio equipment has been installed.

It's not too terribly early to be thinking about Austin Summer Fest which is held at the Crown Plaza Hotel, 6121 North IH35 on the first Friday and Saturday in August. I don't care to fight the Austin traffic on a Friday afternoon so I already called the hotel and made reservations for that Friday night. Joe (K5EJL) is working on plans to host a "kit building" program this year and is looking for volunteers to help with this. Count me in, Joe.

We're still in need of a club secretary, to record and maintain the minutes of each meeting. During our March meeting (03/06/2018) I will be taking nominations for this position. Please consider working with me, and your VP, Lew (W5IFQ) and your Treasurer, Jay (KA5OST) in making this Club the best that it can be.

Thank you and 73, Ruben (WB5WTF)

Meeting Minutes - AARC General Meeting, 6 February 2018

Meeting called to order at 7:03 pm at the ARL auditorium, Ruben Fuentes, WB5WTF, presiding.
Attendance: 42
We had several visitors this month: Adoni Poledicha, KG5WHC, Carston Buehler, KG5PAL, Bob Beatty, W9LMB, Glen Meter, W5MTR, Brad Drury, KG5VWE
We had one new ham this month, Jeremy Witkins, who is awaiting his call sign.
There were no new upgrades or call sign changes.

Officer Reports

- Treasurer: Absent - no report.
- Secretary: no report - Secretary Joe Talafous, KG5QVW, has resigned. There were no minutes for the December meeting, which was the Holiday Party, or the January meeting which was canceled due to bad weather.
- Vice-President: Lew Thompson, W5IFQ - I handle the presentations and am always looking for presenters or topics. Email me if you have ideas.
- Newsletter: Michael Skurka, K5MSK. Absent - no report. (I will always welcome articles and tidbits.)
- ARES: Kerbey Spruiell, KG5DLD, Travis County EC - trailer project presentation follows later.
- Technical Committee: no report.
- BBHN: No report this month.

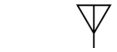
There was no New Business.

Announcements

- There were no Ham of the Month nominations, but Kerbey Spruiell, KG5DLD, was presented with the 2017 Ham of the Year award plaque.
- The ARL Auditorium has been reserved for all General Meeting dates in 2018.
- See the SwapNet Newsletter for upcoming events.
- A quick Space Weather report was presented by Lew Thompson, W5IFQ, as the program will be more lengthy than usual.
- Kerbey Spruiell, KG5DLD, reported in detail on the acquisition at auction of 2 emergency communications trailers, surplus from Texas Military Forces (TMF). Approximately $1500 of additional funds will be needed to completely outfit one of the trailers and dispose of the other. Another central Texas Amateur Radio club has expressed interest in the second trailer. Work parties at the Red Cross will take place in coming weeks there. We need volunteers to help with refurb and installations.

Lew Thompson, W5IFQ, presented a program on the MARS organization of Region 6, its equipment inventory, and operations during Hurricane Harvey. TMF mobilized a lot of resources during that disaster.

Meeting was adjourned at 8:55 pm. Respectfully submitted, Joe Fisher, K5EJL, Acting Secretary.



This space available for tidbits. Got some? Send 'em to editor @austinhams.org

AARC Meeting Info

Tuesday, March. 6, 2018 / 7:00pm to 9:00pm

Location: Applied Research Labs
10000 Burnet Road, Austin TX 78758

Meeting Topic:
Automatically-Tuned HF Antennas by Lew, W5IFQ
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.

Upcoming Amateur Exams: 2017

ARRL VEC - Mar. 3rd & Apr. 7th
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 - Mar. 17th & Apr. 21st
2 p.m. in **Room 118**, Fleck Hall, St. Edwards University. $14 fee. Contact Craig AC5KW @ ARRL.net for more info. $14 fee.

2018 - Calendar of Events

Mar 9 - SXSW TCARES Comms - If cell systems fail

Mar 17 - WCARC Swapfest
Community Center San Gabriel Park 455 E. Morrow St., Georgetown, Texas 78626
Talk-in on N5TT 146.64MHz or 145.45MHz, 162.2 Hz PL
ARRL VE Testing (for licenses) begins 9 AM
http://www.wcarc.com/index.php/events/swapfest-d
Table reservations - http://www.wcarc.com/index.php/category-blog-layout/27-swapfest-tables
W2CAT @ARRL.NET 443-416-6387

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), Initial sponsor was Tom King, WK5DX, from Houston, SK 2015. K5LRK club members decided to carry on the torch for Tom! Please join us as we continue the Texas State Parks On The Air event! Activate a State park. http://www.tspota.org/

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

Upcoming Meetings...

Mar.	Apr.	Austin Meetings/Happenings	Time	Address
6	3	AARC Meeting @ Applied Research Lab	7:00 p.m.	10000 Burnet Rd
27	23	Travis County A.R.E.S. @ Applied Rsrch Lab	7:00 p.m.	10000 Burnet Rd
22	26	CERT Meeting @ TBD (see Link / Contact)	7:00 p.m.	TBD
26	23	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/