Microvolt

Monthly newsletter of the Utah Amateur Radio Club

May 2025

The People of Amateur Radio

A couple of months ago we mentioned that ours is a diverse craft, but one reason for that is because it's composed of a diverse people with diverse cultures. This means ham radio operators can be people of any color, nationality, political persuasion, disability, faith, or gender preference, and all are welcome. Still, there are operators and classes who are excluded from our hobby, and while not the focus, these exceptions might be worthy of discussion. One of the purposes of amateur radio is to enhance goodwill (Part 97.1e), locally and internationally. Let's examine whether that goodwill should be extended unconditionally.

Cover – Amateur radio people

So just who are the people of amateur radio? If you're reading this, chances are you're one of them! As mentioned, operators, hobbyists, and licensees come from all walks of life, every profession, every background, and every up-bringing. We welcome all with open ears and hearts ready to share our joy of the craft, *even if they hold no license*.

Tolerance

While we hams most definitely foster a culture of our own, we appreciate those who are different from us culturally and socially. On one hand, we advocate tolerance toward ethnicities, races, and languages we're not used to, but the word ***tolerance*** is not truly representative of the attitude we should embrace in order to express how we should approach others.

It seems like the better word is ***acceptance***, which seems to indicate that we'll take you as you are, not simply *endure* your presence if we have to. Acceptance doesn't mean you believe the same way as another, or accept a person's behavior or attitude, but rather that you ***accept that another human being is attempting to experience what you're willing to share***. For example, you might not agree with a person's religious or political views, but you can still welcome the person into your world of activities.

And yet, there are good folks who don't find a home in our community for whatever reason. We won't satisfy everybody's need for fellowship, and we can't please everybody, yet that shouldn't prevent us from trying. Reaching out to a fellow amateur is not everybody's cup of tea; after all, we're introverts in a hobby of introverts. That shouldn't stop us from at least being ***friendly*** toward each other, even if we don't always agree.

Our craft has evolved

Originally, the amateur radio community was made of men and boys who had an inclination for gadgetry, mechatronics, and technical material in general. That nerd mindset paved the way for numerous inventions, discoveries, and unprecedented advances in science. But the face of amateur radio has changed. Today's interests have swung more toward emergency preparedness, which attracts a large number of readiness-minded operators, of which women make up a larger proportion today than they ever have.

Due to this shift toward preparedness, it's now quite normal for newly licensed hams to know little or even care at all about Ohm's Law or what a tuner is used for. It's not because today's hams are less intelligent than those of former days, but rather they are drawn to a different kind of craft than many were once drawn to. In olden days, the hobby was the end goal, but today ham has become more of a utility, a means to an end.

The social medium

One aspect of the craft that has caught the attention of club mentors and organization leaders alike is the ***social face of amateur radio***. Not to be confused with hams asking questions or posting comments on social media, many have found themselves drawn to the social side of radio, which has existed since its early inception. Many find that they prefer to casually ***ragchew***, or carry on a friendly conversation rather than the pounce-and-run method of contesting. They want to get to know you and look for friendship.

The anti-social sector

Speaking of the introvert community, many amateurs find that they simply don't want to interact with anybody, and that's alright too. But if they don't want to communicate, why in the world would they want to do ham radio? You might actually be one of them, who feels excited about the hobby, but safer contacting somebody on another continent, somebody with whom you will never likely encounter personally. Many like you have found a haven in FT8 for example, where no conversation is necessary, and that's ok as well. A few simply ask for a signal report on the repeater, just to maintain connection, and for them, that's their ham checkbox for the day.

Microvolt editorial staff

Editorial – Exceptions to the rule

As mentioned in the cover story, ***the rule*** for us amateurs is to welcome and include people of all kinds into the fold, whether or not they hold a license. Yet, there are some Earth-dwellers that we actually exclude from our wonderful craft and hobby of amateur radio.

National exclusion

As of 06-07-2022 no countries are banned or prohibited from amateur radio operation. At one time, however, at least Yemen, North Korea, and Ukraine were banned from sending or receiving amateur radio communication, but all those bans have been lifted as of the date of this newsletter article.

License suspension

Getting onto amateur radio as a control operator and transmitting requires an FCC license. According to the Part 97 rules, however, an amateur who has had his or her license suspended or revoked is in some ways worse off than a person who was never licensed. For example, a suspended person cannot legally participate in third-party communication, but a person who has never held an FCC license can.

Criminal past

Starting 09-07-2017 one of the questions introduced on the FCC Form 605 application is whether or not the applicant has ever been convicted of a felony. The purpose of the question is to ensure the applicant possesses *the basic qualifications* to hold an FCC license. The license candidate who acknowledges a felony conviction on the form is not automatically refused a license, but must submit an explanation within 14 days of applying, or the FCC will dismiss the application.

Offenses

An amateur radio club can bar or ban a legally licensed individual from club activities, a net, or a repeater, often because of substantiated misconduct or repeated rule violations. Furthermore, club or group leadership might find it necessary to prevent individuals from engaging with club-associated social media in an effort to ensure the safety of other members and protect the good name of amateur radio.

You're not the ham police

Even after becoming aware of a person who should be excluded in the craft, it's not your responsibility to read him or her their rights. Leave the exclusion to organization leaders, while you remain cordial and welcoming to them. Once you become aware of an unlicensed individual who is attempting to transmit using amateur radio frequencies, you should not engage the person in casual conversation, but the Part 97 rules permit you to inform the person of club meetings or exam sessions.

Nothing personal

When engaging with another human being, on or off the air, it's possible and often easy to become offended by their wordage, attitude, demeanor, or tone of voice. If you do, either try talking with others instead, or practice being forgiving, understanding that they might not have intended to cause you harm. While we should always refrain from openly criticizing others, it's likewise difficult for most of us to take criticism, however well-intended. Don't let these be excuses to avoid, ignore, or shut out people, just because you don't like something about them, or because they hurt your feelings.

Anything to add? Email ***editor@utaharc.org***

Letters to the editor

Dear Editor:

I was just gifted with an old Heathkit SB-220 2 kW linear amplifier. Are there things I should do to make sure it's in good working order before I plug it in?

Michael in Salt Lake City

Dear Michael:

The Heathkit SB-220 was a great work horse in its day, and if it's been well-preserved, should still provide you lasting operation. Before anything, be sure you know whether it's been wired for 120 VAC or 240 VAC. Next, follow the Test and Final Assembly instructions in the manual (page 72) to ensure proper working order. If the amplifier hasn't been cared for as well as it should have been, you might consider opening it up and cleaning it out, and maybe replacing the electrolytic capacitors, especially the bank of eight. Finally, if you're new to amateur radio amplifiers, you might want to get with a seasoned tube amplifier elmer to learn the best way to operate one, to prevent damaging your transceiver and to get the most out of your new toy.

Dear Editor:

What does a $5000 HF rig have that a $1200 HF does not? I see that some can transmit 200 watts, so there's that, but what else?

Rich in Ogden

Dear Rich:

In spite of the many bells and whistles offered by the higher-priced transceivers, one of the largest differences is the receive ability. Transmitters compare fairly well in most respects because transmitter circuits are relatively easy to design with common harmonic filtering and synthesizer stability (stays on frequency). But traditionally receiving has become an art form worth pursuing due to increased demand for improved sensitivity, increased selectivity, narrow filtering, and noise rejection at radio frequencies. For example, one receiver might do just fine with an RLC bandpass / band-reject filter, but another receiver might cost more because of its improved BPBR filter made from a more costly Butterworth, Chebyshev, or even a crystal lattice filter in one or more cascaded IF (intermediate frequency) stages.

Der Editor:

I'm a little confused about the rules for using a radio that's legal for both ham and GMRS. I was told that I can modify a ham radio to communicate with my family who has GMRS radios, as long as I keep the transmissions to a half watt. Others tell me that's not legal, but what do you say?

Tim in North Ogden

Dear Tim:

With the recent increase of interest in GMRS use, numerous questions have surfaced regarding that service, and many answers have been clouded by misinformation. According to Part 95.335, a device can legally be used to transmit on GMRS frequencies ***only if it's been certified to do so***. Furthermore, while you are free to modify nearly anything you like to transmit on amateur radio frequencies, according to Part 95.337, modifying a device that's been certified for GMRS for use on a non-GMRS frequency voids its certification. At this time, we're unaware of any device that's legally capable of transmitting using both amateur radio frequencies and GMRS frequencies. In fact, Part 95.1761(c) states that a GMRS radio must not be able to communicate on amateur frequencies. Finally, some operators point out the lack of rules enforcement, in that violating the above rules will never likely get somebody in trouble with the law. The actual point is that we amateurs are given the license to do a lot more than is granted to those outside our service, but with that freedom comes responsibility. In other words, ***enforcement is moot because we endeavor to follow the rules***.

Send your questions to ***editor@utaharc.org***

Club news

We were delighted this month to hear from Lisa Cook K7LAC, who addressed us on ***Getting Youth Involved in Ham Radio***. She walked us through many great ideas on how to engage youth in the craft, including YOTA (Youth On The Air), CW bracelets, JOTA (Jamborees On The Air), youth nets, fox hunting, SSTV, FT8, ARRL Kids' Day, remote radio, and communicating with the ISS.

Lisa also focused on what gets youth especially interested in radio, that's inexpensive projects, like a tape measure Yagi, Morse code key, and a potato light.

She also mentioned how adults can help youth, like through the ARRL Teachers Institute, the licensing grant program, and STEM.

Lisa is an Assistant Section Manager and Youth Coordinator of the ARRL Utah Section. She's also an alum of the ARRL Teachers Institute and uses ham radio in her high school classroom.

You can see the video presentation here. You can also view past club meeting presentations on our YouTube channel.

(Photos courtesy James Bennett KK7AVS, et al)

UARC 2025 Fall Potluck

Our 2025 Spring Potluck was so successful that, by overwhelming demand, we plan to hold a Fall 2025 Potluck dinner on Thursday 11 September at the same location, the Salt Lake County Facilities Management Cafeteria, 2001 S State St, room S1-100. We're announcing this now, because some club members said that two months wasn't enough notice for the Spring Potluck.

For your information

Field Day 2025

Saturday noon 28 June through Sunday noon 29 June **near Payson Lakes**. We plan to start setting up Thursday night about 6:00 pm.

Steak Fry 2025

Our annual fun get-together is planned for Saturday 19 July 2025 at the Spruces Campground, site GRP7 starting around 3:00 pm. (Spruces is approximately ten miles up Big Cottonwood Canyon.) Cost is $15 per person. Details are posted on our website.

License classes

Salt Lake:

General : Tuesdays 7:00 pm to 9:00 pm
147.160+ MHz (127.3 Hz tone)

Provo:

Technician : Saturday, 8:00 am to 1:00 pm
Sat 20 Sep
Visit **HamStudy.org/sessions** to register (free)
Provo Fire Station #2, 2737 N Canyon Rd
Email **nv7vham@gmail.com** for info

Orem:

Technician : 4 Tuesdays, 6:30 to 8:30 pm
Sep 16, Sep 23, Sep 30, Oct 07
Visit **psclass.orem.org** to register ($10)
Orem Traffic Training Room, 95 E Center St
HamStudy.org account required
Email **nojiratz@hotmail.com** for info

Eagle Mountain:

General : 5 Thursdays, 7 to 9 pm
May 8, May 15, May 22, May 29, Jun 12
Email **ki6oss6365@gmail.com** to register (free)
Eagle Mountain City Hall, 1650 Stagecoach Run

Exam sessions

Salt Lake County:

- Email Garth Wiscombe W7PS **w7ps@arrl.net**
  May 19, Jun 30, Jul 28, Aug 25, Sep 29, Oct 27, Nov 24
- Email Rick Morrison W7RIK **w7rik@arrl.net**

Utah County:

- Wed 21 May 7:00 pm : **Provo** : **signup**
- Wed 18 Jun 7:00 pm : **Provo** : **signup**
- Sat 14 Jun 10:00 am : **Eagle Mtn** : **signup**

Club repeaters

Farnsworth Peak : 146.620– MHz (no tone)
Scott Hill : 146.620– MHz (no tone)
Lake Mountain : 146.760– MHz (no tone)

SDRs and beacons

Northern Utah WebSDR : **sdrutah.org**
KK7AVS SDR : **k7xrd.club**
N7RIX SDR : **https://sdr.n7rix.com**
K7JL beacon 28.2493 MHz

HF remote and club transceiver stations

If you'd like to learn how to get started using the remote stations, visit the **HF Remotes link** on **the club website**:
https://user.xmission.com/~uarc/HFRemote.html

How can I help?

Reach out to the club leadership by sending an email to **uarc@xmission.com**. Also, add to this page by emailing **editor@utaharc.org**

Spotlight – Adam Stribling KK7NJJ

Adam Stribling KK7NJJ grew up in Virginia, south of Washington, D.C. At one time, he was working for a retired farmer and maintained his equipment and property. It turned out that the man was very active in amateur radio, and had quite the ham radio setup on his farm. The farmer became Adam's mentor, and got him really excited about electronics and the ham radio hobby.

Later, Adam moved to Ogden, where he's been living with his grandparents for about two years now. In 2023 he attended Field Day in Oak City. That was the year flooding prevented UARC from holding the event at Payson Lakes. Adam didn't have his amateur radio license yet, but he knew a lot about running HF radios and satellite communication. While there, Adam worked all night hammering out contacts as fast as he could. Some UARC leaders were so impressed with him that they asked if he would be willing to be their Field Day Chair for the upcoming year, and he agreed.

After that first Field Day, Adam decided to get his amateur radio license. He met another mentor and close friend who helped him study for his license, Craig Buck K4IA who lives in Virginia. After spending some quality time with HamStudy, Adam received his technician license in 2023. He's now studying for his General license, and hopes to get it soon while visiting with parents and friends in Virginia.

So, what does Adam like best about amateur radio? He likes the challenge of learning new things and building projects, like an old vacuum tube receiver. Adam currently serves as the UARC Field Day Chair, and has enjoyed that position so much that he plans to fill it again this year. He and I were demonstrating logging to the new individuals who had never done this before, upwards of fifty contacts; he loves helping others.

Not only is Adam a member of UARC, but as mentioned he's the UARC Field Day Chair. He enjoys hiking, and as an avid reader, takes in a book each week.

Adam, thank you for all of your contributions to amateur radio.

– 73 from Linda Reeder N7HVF

Adam Stribling KK7NJJ (left) and Kent Flowers N7EKF at Winter Field Day

Tech corner – The Utah Band Plan

While helping a new ham couple experiment with their new-found craft one day, it became apparent that their HTs (handheld transceivers) were set to 147.3325 MHz simplex. When asked why they chose that particular frequency, they proudly announced that it's well within the 2-meter band, as allocated by the FCC and displayed on the ARRL band chart for Technician licensees, and that one seemed to work for them.

The couple was correct in selecting a frequency within their Technician privileges, and were congratulated on that. When asked whether they were familiar with the ***Utah Band Plan***, they said they weren't, but that they had heard there was such a thing. That was when they learned that the band plan further clarified which frequencies ***and usage*** were permitted by amateurs.

According to the ARRL band chart (which reflects the corresponding Part 97 rules), anybody with a valid Technician license is indeed permitted to use any frequency in the 2-meter band, which spans 144.000 to 148.000 MHz. However, our local band plan states that certain sub-bands, or subsets of this span, are allocated for specific types of usage. Here is a simplified summary for some of them within the 2-meter band:

144.000 to 144.100 MHz : CW (Morse code) only

144.100 to 144.300 MHz : SSB (single sideband) only

144.300 to 144.500 MHz : satellite only

144.500 to 144.900 MHz : repeaters only

145.100 to 145.500 MHz : repeaters only

145.500 to 145.800 MHz : simplex permitted (145.510 through 145.790 MHz, odd 20 kHz)

146.000 to 146.400 MHz : repeaters only

146.420 to 146.600 MHz : simplex permitted (146.420 through 146.580 MHz, even 20 kHz)

146.600 to 147.400 MHz : repeaters only

147.400 to 147.600 MHz : simplex permitted (147.400 through 147.580 MHz, even 20 kHz)

147.600 to 148.000 MHz : repeaters only

From the above list, you can see that the frequency the couple was using, 147.3325 MHz, falls within one of the sections allocated for repeater operation, and so their selected simplex frequency did not meet the Utah Band Plan. To be compliant, they needed to choose a frequency from within one of the three sub-bands designated for simplex operation.

But wait, there's more. Further examination of the Utah Band Plan shows that simplex frequencies must be selected by ***odd-numbered 20 kHz frequency separations*** in the 145.500 to 145.800 MHz list, and ***even-numbered 20 kHz frequency separations*** in the other two. This means, for example, you can use 145.510, 145.530, 145.550 MHz, etc., from the first list, and 146.480, 146.500, 146.520, etc., from the second list, and so forth. Therefore, a selection of 146.490 MHz for your simplex operation, for example, goes contrary to the Band Plan.

Finally, a band plan is *not the law*, but is a set of strongly suggested agreements that help us all play nicely with each other, in that they prevent chaos and minimize interference between stations. The band plan is set in place by the Frequency Coordinator, and in Utah is supported by the ***Utah VHF Society***. ***Keep in mind that band plans can differ from state to state***.

Noji Ratzlaff KNØJI

Strays – You, the leader

In most cases, you'd rather be the follower than the leader of an activity, an event, or even a club, because it likely requires less work, or more importantly, less time. Then again, whether it's a large club or a small committee, there's something attractive about leading a team or organization in a successful direction. The sense of achievement you plan, anticipate, and then realize, often prompts you to do more and reach even higher goals.

Keep in mind that with added status also comes added responsibility, and that responsibility can often be enlarged with time. Yet added responsibility can also mean greater headaches, but that's what you sign up for as a group leader. The buck stops at you, meaning while others in your club can glean the credit for things that go well, you take the rap for things that don't. Like it or not, not only are you responsible for every bad thing that occurs in your club, regardless who's actually at fault, but you need to own up to that as well, to demonstrate your leadership.

Off the record

One thing to keep in mind as an organization leader is that everything you say, regardless of situation, surrounding, or context, is a reflection on the team. The same goes for your actions, because ***you represent the group in all you do and say***, whether or not you believe that. When others see you, they don't see the person, they see the organization. So for you, there's no such thing as *off the record*; it's always on the record.

This means that, once you accept the role of a leader, your behavior and attitude need to be elevated a little higher than they might normally be. That's not to say you need to display a false front to everybody, especially since most can see right through you anyway. But it does mean that you should probably hold yourself to a higher standard of morality and ethics than before. People know that you're not perfect; there's just no need for you to prove it.

Relevance

Ok, maybe you don't want to be the club president or the committee chair. Still, if you teach a class or even share your enthusiasm for amateur radio with another, you are suddenly the leader to those people who look up to you. It might be an awesome responsibility, but the example you set and the words you use can make or break their amateur experience.

Support your leadership

One of the best ways to show leadership is to lead the charge yourself by supporting your own leaders, even if you don't completely agree with them. Your support for your leaders does not mean that you agree with everything they stand for, and it doesn't mean you believe they're perfect. But your example as a good follower will go a long way to encourage your leaders while helping others rally around them.

If you have an objection to a particular policy, action, or point by one of your leaders, feel free to bring it to their attention. But once they've made their decision on it afterwards, the discussion is over, and you need to ***support and demonstrate support*** for your leader. To continue criticizing, pointing out disadvantages, and announcing alternate points of view afterward are not only bad form, but destructive to the unity and good will of the amateur radio (or any other) community.

Noji Ratzlaff KNØJI

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We encourage you to submit original pictures (highest resolution), articles, software and hardware descriptions, appropriate humor, and responses to editorials. Email the content, pictures attached, to the editor at **editor@utaharc.org** by the 20th just prior to the target month.

The **Utah Amateur Radio Club** was organized under its present name in 1927, although its beginnings may date back as early as 1909. In 1928, it became affiliated with the American Radio Relay League (club #1602) and is a 501(c)(3) non-profit organization. It holds a club station license with the call sign W7SP, a memorial to Leonard "Zim" Zimmerman, amateur radio pioneer in the Salt Lake City area.

The club meets each month except July and August. The meetings are usually held on the second Thursday of the month at 7:30 PM in the University of Utah's Warnock Engineering Building, room 2230.

Club membership is open to anybody interested in amateur radio; a current license is not required. Dues are $20 per year. Send dues to club secretary James Bennett, 4960 W 5400 S, Kearns, Utah 84118. Email address changes to **kk7avs@gmail.com**

Tax-deductible monetary contributions are gladly accepted. Send directly to club treasurer Shawn Evans, 1338 S Foothill Dr, #265, Salt Lake City, Utah 84108-2321. For in-kind contributions, please contact **uarc@xmission.com** to make arrangements.

UARC maintains the 146.620– and 146.760– repeaters, which are administered by the UARC Repeater Committee. Direct comments and questions to any committee member. The 146.760– repeater is on IRLP node 3352.

Call the **UARC Ham Hotline** at **801-583-3002** for amateur radio information, including club, testing, meeting, and membership information. Leave a message, and we'll make an effort to return your call.

UARC 2025 Board

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For-late breaking news listen to the UARC Information Net, Sundays at 8:30 pm on 146.620– or visit the announcement page.

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