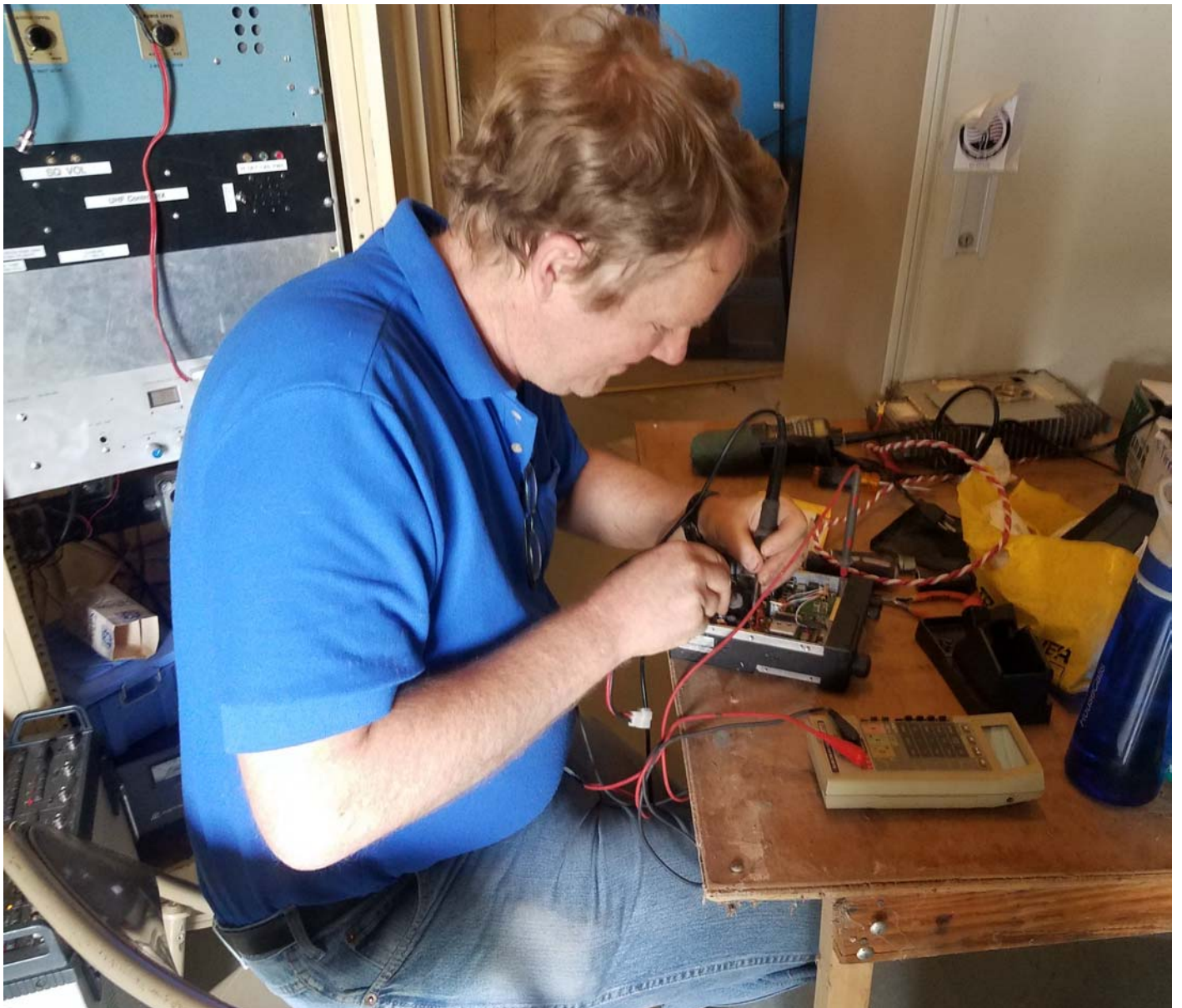


The *Microvolt*

July 2020



Prologue

Publication: *The Microvolt* (USPS 075-430) is the official publication of the Utah Amateur Radio Club, Incorporated, 632 S. University Street, Salt Lake City, UT 84102-3213. It is published monthly except August. Subscription is included with club membership at \$20 per year. Single copy price is \$1.50. Periodicals postage paid at Salt Lake City, Utah. Postmaster: send address corrections to *The Microvolt*, c/o Tom Kamlowsky, 4137 Clover Lane, Salt Lake City, UT, 84124-2711.

Deadline for submissions is the 24th of each month prior to publication. Submissions by email are preferred (k7hfv@arrl.net), but other means including diskettes and typewritten submissions can be mailed directly to: Gordon Smith, 632 University St., Salt Lake City, UT 84102-3213. Reprints are allowed with proper credits to *The Microvolt*, UARC, and authors. Changes in mailing address should be communicated to the Club Secretary: Tom Kamlowsky, 4137 Clover Lane, Salt Lake City, UT, 84124-2711.

Club: 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 non-profit organization under the laws of Utah. It holds a club station license with the call W7SP, a memorial call for Leonard (Zim) Zimmerman, an amateur radio pioneer in the Salt Lake City area.

Meetings: The club meets each month except July and August. The meetings are held on the second Thursday of the month at 7:30 PM in the University of Utah's Warnock Engineering Building, generally in room 1230 or 2230, sometimes in 2250 or 105.

Membership: Club membership is open to anyone interested in amateur radio; a current license is not required. Dues are \$20 per year, including a *Microvolt* subscription. *The Microvolt* and membership cannot be separated. Those living at the same address as a member who has paid \$20 may obtain a membership without a *Microvolt* subscription for \$12. Send dues to the Club Secretary: Tom Kamlowsky, WA7ZRG, 4137 Clover Lane, Salt Lake City, UT 84124-2711. Let the Secretary know if you prefer the electronic edition of *The Microvolt* instead of the printed version.

Contributions: Monetary contributions are gladly accepted. Send directly to the Club Treasurer: Chuck Johnson, 1612 W. 4915 S. Taylorsville, UT 84123-4244. For in-kind contributions, please contact any board member to make appropriate arrangements.

Repeaters: UARC maintains the 146.62- and 146.76- repeaters. The repeaters are administered by the UARC Repeater Committee. Comments and questions may be directed to any Committee member. The Lake Mountain repeater (146.76-) is IRLP node 3352. Instructions for IRLP use are on the club website.

Ham Hot-Line: The Utah Amateur Radio Club (UARC) has a Ham Hotline, 583-3002. Information regarding Amateur Radio can be obtained, including club, testing, meeting, and membership information. If no one answers leave your name, telephone number and a short message on the answering machine, and your call will be returned.

UARC 2020 Board

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Executive VP: Lonnie Oaks, K7LO	801 255-1225
Vice Pres: Bruce Fereday, KF7OZK	801 883-9428
Secretary: Tom Kamlowsky, WA7ZRG	801 505-9134
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Imm. Past President: Clint Turner, KA7OEI	801 566-4497

Committee Chairpersons and Members

Bookseller: Rick Gregory, KG7GOW	801 582-7783
Historian: Ron Speirs, K7RLS	801 904-3587
Field Day Chair: (To be determined)	
License Trustee: Brett Sutherland, N7KG	801 298-5399
Repeater Engineer: Clint Turner, KA7OEI	801 566-4497
Autopatch Engineer: Gordon Smith, K7HFV	801 582-2438

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IRLP Information

For information on using the club's IRLP node on the 146.76 repeater, check <http://www.utaharc.org/irlp>.

For late breaking news listen to the UARC Information Net Sundays at 21:00 on 146.62 or set your browser to: <http://user.xmission.com/~uarc/announce.html>

We are grateful to the management of XMission, our Internet Service Provider (ISP), for the donation of this Web-Page service.



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The Microvolt

The Official Publication of the Utah Amateur Radio Club, Salt Lake City, Utah
Volume 63, Issue 7, July 2020

Latest News

No Steak-Fry (sob)

Our normal July activity is a steak-fry in Big Cottonwood Canyon. Alas, the board could not think of any way to hold it with reasonable separations given that the COVID-19 bug was floating about. Much of our membership is in the age group most likely to need hospitalization, so we thought it safest to forgo the event this year. Reservations have been made for next year. We hope things are a bit better by then.

September On-Line Meeting

Our next UARC meeting will take place on Thursday, September 10, at 7:30 P.M., and, again, will be a “virtual” meeting.

What do you need to set up an HF station? That is the question the September program will try to answer. One can be easily overwhelmed by the variety of equipment available. There are transceivers, power supplies, outboard microphones and speakers, antenna tuners, spectrum scopes, remote antenna switches, balun coils, digital mode interfaces, and, finally, *antennas*.

There are so many possible antenna options that whole books have been written about the subject. They come in vertical and horizontal, single-band and multi-band, commercial and homebrew, a spectrum of gain figures, some needing artificial ground planes, and a range of sizes from so innocuous the neighbors will never notice them to ones so large they need to be rotated on railroad tracks.

Our President, Morris Farmer, AD7SR, will be presenting a program on *Putting Together an HF Station*. He writes:

“Most of us believe that once we've passed the General exam that all we'll need is a new transceiver that covers the HF bands. Oh yeah! I'll need an antenna too. That really was pretty much what you needed to get on the 2M and 70 cm bands. While these are necessary, they are far from everything you'll need to get on the HF bands.

“I'm going to discuss a fairly comprehensive list of what you're going to be needing to get on HF with the goal of taking some of the mystery of what's needed and why. Fair warning: the list is long. In fact I'm a bit concerned about scaring you away.

“While you really will need the items I'm going to talk about, most of it isn't terribly expensive and will last for years, probably your whole time as a Ham. The most expensive and shortest lived will probably be your radio and that can easily last 15-20 years.

“Building your very own HF station can be one of the most challenging and enjoyable experiences of your Ham career. It is important that you are armed with the information needed to do it right, thus avoiding the frustrations and expenses of having to go back and fix what you did wrong.

“Hopefully I will help you get most of it right the first time.”

Please join us for the YouTube virtual meeting on September 10th at 7:30PM. A link to the UARC YouTube channel is provided below and when

visiting the channel please be sure to look for and press the “Subscribe” button. Go to:

<https://www.youtube.com/c/UtahAmateurRadioClub>.

The September 10 virtual meeting will begin at the normal UARC meeting time of 7:30 P.M. We will try to have the stream going by 7 P.M. to work out any technical problems.

If you would like to be able to *interact* (e.g. ask questions of the presenter), read the instructions at utaharc.org/youtube.

Our Cover

Our cover this month features our immediate Past President, Clint Turner, KA7OEI, on Lake Mountain installing a new power amplifier module in the transmitter for UARC’s 146.76 repeater. The (very) foldable work table was supplied about 40 years ago by Tom Wing, W7XP (formerly W7ETR).

We have had a mysterious series of power amplifier (PA) failures in the last few months and, as we write this, there has been yet another failure. This is puzzling because the original PA lasted over 20 years. Getting to the mountain to investigate is being delayed by efforts by appropriate agencies to put out the “Knolls Fire” in the neighborhood of Saratoga Springs. People are being asked to “stay away from Lake Mountain.” We hope to be able to investigate soon.

Crediting Field Day Scores to UARC

The annual national Field Day operating event is over, but if you haven’t submitted your results, you might want to let your score be added to the UARC aggregate score in addition to being listed separately under your own call.

To enter you will need to fill out a “summary sheet.” There is a slot labeled “Club or group name.” Just enter “Utah ARC” in that slot. That’s all there is to it.

For full information about how to calculate your score and how to submit, go to <http://www.arrl.org/field-day>.

Getting Ready for Homebrew Night

In keeping with long tradition, UARC’s annual “Homebrew Night,” a chance for hams to show off their latest home-built equipment, will take place as the program for our October meeting, to be held Thursday, October 8, likely on-line. So be sure not only to get your latest project working by that night, but also to figure out how to display it using photos, movies, diagrams, and/or sound recording. Homebrew is a wonderful tradition dating all the way to the beginnings of amateur radio.

Still Looking for Meeting Subjects

We are still in need of programs for our club meetings this fall. If you have a presentation you would like to make, know someone who is a good presenter, or just have a topic that you would like to learn more about, let our Program Chair Persons know.

Presenting a program on-line from home is daunting to some people, but in many ways it is easier than packing up your material and going to a lecture hall. You need a camera and a microphone connected to your computer and may need a little practice time to get comfortable with how it all works. That can all be worked out well in advance of the meeting.

Some of the advantages are that you can do it all from a comfortable chair at home. You don’t have to calculate travel time and include time for learning how the lecture hall’s audio and video work, you can show as many items as you like without having to load up the bed of the pickup, and if you need unexpected other files to help answer questions from the audience, they will be available.

Honest, it’s easy!

Choose Not to be Offended!

By Clay Rushton, W1CMR

I have been a ham radio operator now for about three years. Early on, I read somewhere that if you feel like you need to correct someone about proper procedure, to do what you could, but to do it off the air. One day I was on a repeater and used the word “monitoring”. Another ham who wasn’t even part of the QSO looked me up on QRZ and sent me an email. He sent me chapter and verse from the ARRL the proper use of that word. I read through the reference and realized he was right and even though some might say he was taking things too seriously I stopped using the word.

During a totally different QSO, on a different repeater I heard another ham whom I respected and had a specific question for him. Just after calling him, another station “broke in,” which was not a problem or bothersome. Because I had a specific question, rather than keeping an orderly round table I asked my question, breaking the order of the round table. The ham I asked the question to quickly said, “You should normally pass the discussion in order of station in the round table” then proceeded to answer my question.

I was still a fairly new ham for both of these circumstances but both of them felt different. I am 100% sure neither ham meant any harm, but like I

said, these two situations felt different. The first felt like a friendly bit of knowledge being passed on without others in earshot. The second felt like a little kid being scolded by his mother for reaching into the cookie jar before dinner with all of his friends listening. After a short time to reflect, I realized that both hams had the exact same intent. Both heard something and wanted to help a new ham out to understand common procedure. I have since spoken frequently to both of these hams on the air. I got past my “hurt feelings” and have really enjoyed many QSO’s with each of them.

The point in my sharing these experiences is twofold. One, with QRZ and club rosters it is generally pretty easy to find an email address for most hams. When possible when correcting someone do it off the air unless they are specifically asking for help. The second is to suggest we grow a thicker skin and realize others may know more than you. At the least, they may have a difference of opinion that deserves respect.

Another important thing to remember is that there is a reason one dial on every radio is larger than any other. If you are bothered or offended by another, change the frequency!

More News

7QP a Success

The “Seventh Call Area QSO Party” (“7QP”) held last May has been called a success. A new record was set with the submission of 1150 logs from participants. Darryl Hazelgren, K7UT, the 7QP Captain for Utah writes:

“The 15th annual 7QP was, by any measure, a great success!

“A big ‘Thank You’ to all those who participated in 7QP and submitted a log from the great state of Utah. I counted 32 logs from Utah and we were able to represent 23 of our 29 counties.

“For those who received a certificate of recognition, Congratulations!

“N7RXL and I managed a first place in Duchesne, Carbon, Emery and Grand counties and a first in the (somewhat limited participation) mobile class we entered.”

For a complete write up on the event please check K4XU's report:

http://ws7n.net/7QP/new/2020_7QP_Report.pdf

See you next year for more fun.

73

New Rocky Mountain Vice-Director

ARRL President, Rick Roderick, K5UR, has appointed Dan Grady, N2SRK to fill the remaining term of our former vice director Robert Wareham, N0ESQ who stepped down to take over as Colorado Section Manager.

I am delighted to welcome Dan to the ARRL Rocky Mountain Division team. His strong leadership skills and his boundless enthusiasm for Amateur Radio will be a great benefit to the members of the League as well as the Amateur Radio community at large. Dan is a co-founder and current president of the Parker Radio Association and I've had numerous opportunities over the past couple of years work with him and to observe how he leads and interacts with the club. I'm very confident that ARRL members of the division will be well served.

Please join me in congratulating Dan as he begins his new role.

73,

Jeff, K0RM

New Extra Class Study Guides Now Available

The club Bookseller, Rick Gregory, KG7GOW, informs us that ARRL study guides for the new Extra Class license exam are now available. Exam questions are updated every four years and this

was the year for updating of the Extra Class tests. The new tests went into use at all test sessions on July 1. Rick can be contacted at (801) 582-7783.

Remote Site Survives Fire

One of Utah's largest wildfires of the year, the Canal Fire, covering about 78,000 acres, came dangerously close to UARC's remote HF station near the town of Leamington. Power to the site was interrupted but it was possible to bring the system back up remotely when power was restored. A previous fire had burned a guy rope for one of the wire antennas, but no damage has been detected from the Canal fire. At this writing (early July) the fire is believed to be 83% contained.

The station is available for use by any UARC members with General or higher class operator licenses. It can be particularly valuable to those who suffer deed restrictions and HOA rules that prevent them from putting up reasonable HF antennas. For information on how to get approved and how to use the station, see:

<http://user.xmission.com/~uarc/HFRemote.html>.

Radio Saves Ham's Life

From the ARRL Letter

Alden Sumner Jones IV, KC1JWR, of Bennington, Vermont, is thankful for amateur radio, after he suffered a medical incident and lost consciousness on June 15 while hiking with others along a remote section of the Long Trail, not far from his home. An EMT from Appalachian Mountain Rescue (AMR), who was hiking nearby, saw Jones pass out, but was unable to connect with 911 via his cell phone. Jones, 41, regained consciousness and was successful in contacting Ron Wonderlick, AG1W, via the Northern Berkshire Amateur Radio Club's K1FFK repeater on Mount Greylock. Wonderlick initiated what turned into an 8-hour effort to get Jones off the trail and to a medical facility, acting as a relay among Jones, emergency crews, and other agencies involved. Arrangements were made to

have a search-and-rescue crew from New York retrieve Jones by helicopter. Amateur radio participants were able to relay critical information, including an accurate location, as preparations continued.

“Ham radio saved my life last night, and I am very thankful for how everyone helped me,” Jones said afterward.

Member of the Month

Paul Michelsen, K9BIT

By Linda Reeder, N7HVF

This month we are featuring Paul Michelsen, K9BIT. It was Paul's grandfather who got him interested in amateur radio. Paul's grandfather was really active in amateur radio and was a member of UARC. He held an Extra Class license and his call sign was W7JQ. Paul's grandfather was the first person to install two-way radios in police cars. This made their jobs a lot easier because they could communicate with each other.

Paul's brother-in-law, Allen, and his brother, David, both have amateur radio licenses. David's call sign is WB7AZZ. One cold wintery day in January of 1996, Paul was wondering what he could do. He was deep in thought for a brief moment then he said “I am going to get my amateur radio license!” Paul had the book “Now You're Talking,” and he read the entire book. He found studying that book to be pretty easy. Paul had learned so much from his grandfather while he was growing up that, now that Paul was grown up, he could comprehend the material easily.

In April of 1996, Paul was ready to take the test. Paul's brother-in-law, Allen, was best friends with Eugene McWherter, N7OVT, who offered test sessions in a big seminary building. On April 2, 1996, Paul received his no-code Technician license. His first call sign was KC7QFS. In 2005 Paul decided he wanted a vanity call sign, one that had meaning. “K9” is associated with dogs and dogs' bite, so he got the call sign K9BIT. It fit because Paul used to train dogs.

Right after Paul received his ham radio license Allen asked Paul if he could help him and Eugene

put together an emergency radio response system which was offered by the Church of Jesus Christ of Latter Day Saints. Paul helped them get the system up and running. This organization was started in 1996 and still runs today.

One year later Paul met Randy Kohlwey, N7SFI (now WI7P). Randy introduced Paul to satellite radio communications and Paul found it to be absolutely wonderful. He told me that satellite radio communication is his favorite aspect of amateur radio.

Satellite radio communication is a tricky business. One must have two radios and two different antennas. You transmit on a two-meter uplink and listen on a 70-cm downlink. Paul has a Radio Shack two-meter FTX2002 transceiver for the uplink, and a Yaesu FT-530 for the downlink. One would have to listen to the uplink and downlink at the same time. Paul has a quarter-wave antenna for the two-meter uplink and a Yagi antenna for 70-centimeter downlink.

Another challenge with satellite communications is frequency adjustments. The satellite is continuously in motion. It never stays in one place for very long. It moves horizontally and vertically. You might say it moves up and down and all around. Satellites complete an orbit every 90 minutes. Because its velocity relative to the listener keeps changing, the apparent frequency does also. It takes concentration to keep track of it all. Paul has to listen to the uplink and downlink at the same time while following the satellite with his yagi antenna. He has made lots of contacts

including stations in Mexico, Hawaii, and Canada. When Paul first started doing this he had to go to the library with the call signs of people he worked and get their names and addresses because he didn't have a computer. Years later, when Paul had a computer, he had made friends with a gentleman in Hawaii. He got the information he needed via the satellite. You really don't have much time to get the information you need during the satellite contact. He would send emails to this friend on the computer.

Paul has won many satellite awards. He has worked all states via the satellites. He has received the QRP award using one watt. Paul has received the Satellite Achiever Award for having made thousands of satellite radio contacts. Paul has worked all states on two watts using the AO27 satellite. Paul has also received the communications improvement award. Paul is a member of AMSAT, the Amateur Satellite Corporation. Their magazine promotes amateur radio satellite communications. Paul is also a member of ARRL and of UARC. Paul gets lots of requests to do satellite radio communications at Field Day locations because you get 100 bonus points for a satellite contact. A few years ago Paul came to UARC's Field Day at Payson Lakes bringing satellite communications gear with him.

Jeff Anglesey, KB7TJM, taught Paul how to build antennas. All of Paul's antennas are homebrew. Paul decided to build his own arrow antenna instead of buying one. The arrow antenna works for both the two-meter and 70-centimeter bands. This makes it nice because he only has to use one antenna. Paul really enjoys building antennas.

Paul's wife is named Lesa. Paul worked for a bank for many years but is now retired. He joined the Air Force University Weber State satellite project and works with them on satellite radio communications. Paul was involved with the first satellite in space in the year 2000. It was January 27th. in Vandenberg California. Paul says when

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the satellite is on earth it is a Jawsap and when it is in space it is Oscar. This satellite, that was the first satellite in space in the year 2000, was Oscar 39.

Paul has several other hobbies. He loves to ride motorcycles and has a metal detector. (He can help you find your rings). Paul likes to camp with family and friends and is a member of a small trailer group called "Tear Drops."

Paul, we wish you the best in all of your endeavors.



Paul Michelsen, K9BIT, with antennas and awards