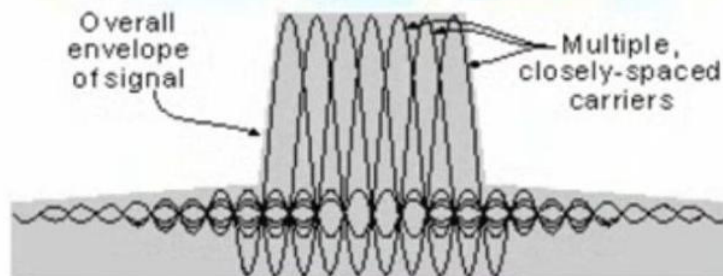


# The *Microvolt*

October 2020

September 10, 2020 UARC meeting: Digital image & file



- Each data stream is modulated onto multiple adjacent carriers within the bandwidth of the medium, and all are transmitted simultaneously.

(Text Source: <http://mobiledevdesign.com/tutorials/ofdm/>)  
(Image: <http://www.landmobile.co.uk/public/images/OFDM.gif>)

## 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

President: Morris Farmer, AD7SR	801 278-4966
Executive VP: Lonnie Oaks, K7LO	801 255-1225
Vice Pres: Bruce Fereday, KF7OZK	801 883-9428
Secretary: Tom Kamlowsky, WA7ZRG	801 505-9134
Treasurer: Chuck Johnson, WA7JOS	801 268-0153
<i>Microvolt</i> Editor: Gordon Smith, K7HFV	801 582-2438
Asst. <i>Microvolt</i> Editor: Rick Asper, AC7RA	801 865-1693
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Program Chairperson: Mary Jelf, KG7QNG	385 347-7900
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>. Check with the Secretary for the access code.

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.



For account information go to:

<http://www.xmission.com/>

Or call 801 539-0852



# The Microvolt

The Official Publication of the Utah Amateur Radio Club, Salt Lake City, Utah  
Volume 63, Issue 9, October 2020

## Latest News

### October 8 (on-line) Meeting: Homebrew Night

We are counting on you for the program for the October UARC meeting, at least if you have been doing some building of your own equipment in the last year. October's meeting is "Homebrew Night," the night when hams have the opportunity to show off the transmitters, keyers, power supplies, antennas, and other things they have made to become part of their amateur radio stations (home, portable, or mobile). Anything that can be used in amateur radio and hasn't been shown at a previous UARC Homebrew Night is fair game to show.

As with recent meetings, we will stream a Zoom meeting to YouTube so that anyone can watch — and participate via the YouTube chat, but for the homebrew meeting we have something slightly different in mind for those who have projects to present.

#### Here's what we are asking:

If you have an amateur radio related homebrew project — or something that you think you can convince us is ham-related — please let us know about it **RIGHT NOW**. You can contact any of the UARC officers, or email your idea/details to:  
[homebrew@utaharc.org](mailto:homebrew@utaharc.org).

You do not need to be a member of the Utah Amateur Radio club to participate. What we are looking for is pictures of your project. These can be in the form of individual photos, a Power Point, LibreOffice, or PDF presentation. The photos may be emailed to us using the [homebrew@utaharc.org](mailto:homebrew@utaharc.org)

address if you like: If you don't have a presentation at the ready, that's OK — just let us know at that address what your project is all about.

If you wish to make a video about your project, that's OK too — just try to keep the motion to a minimum (as little panning as possible, avoid a shaky camera) so that the Zoom stream can present the video as clearly as possible. If you are doing a video, please contact us well ahead of time as a file that size cannot be emailed.

#### How it will be presented:

Those who have let us know beforehand about their project will be invited to participate in the actual Zoom session where you may narrate your photos. Because not everyone knows how to use Zoom, one of the board members will be presenting the photos while you, the owner of the project, can explain what it is that you have done. If you have a video, a similar thing will be done.

If you are on the Zoom session — and the project is pretty simple — simply putting it on camera may work: Again, let us know what you have in mind. If you do **NOT** wish to participate on the Zoom session — or simply can't get on Zoom for whatever reason, we would be happy to present your project for you.. In that case, please include enough explanatory text with your pictures to convey the best details of your project.

We are asking that you propose your project to us by the end of the day on Monday, September 28, 2020. From there, we will get back to you to work out the details on how might be the best way to do your presentation.

We hope to see you — and your project — in October!

For those who plan, simply, to observe, the 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. It's a good idea to connect a little early to make sure everything is working on your end and UARC's. Point your browser at:

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

## **Our Cover**

Our cover this month shows images from the September meeting presented by Chris Long, VK3AML, from his home in Melbourne, Australia. Chris's talk was about relatively new modes by which video signals can be transmitted in rather narrow bandwidths.

For those who may have missed the (virtual) meeting, you can watch the recording of it by going to:

<https://www.youtube.com/c/utahamateurradioclub> and looking for the video that has Chris' name displayed. (That's one of the advantages of on-line meetings: if you miss one you can catch up at your convenience.)

## **Nominations Sought**

It's hard to believe, but it's time to think about nominations for UARC officers for the 2021 year. To stay in harmony with the bylaws we will need to have a slate that we can present at the November meeting when we can also take nominations from the (virtual) floor. Because making nominations at meetings means you need to get somewhat fluent in using "Zoom" software, and there is a limit to the number of Zoom participants we can have at one time, it would be a good idea, if you have a

nomination suggestion, to pass it on to one of the officers right away. (See the inside front cover for names and contact information.) Are you or someone you know good at locating speakers, keeping good records, managing money, writing newsletter articles, planning steak-fries, or even watching over all these jobs and making sure they get done? If so we would love to know your ideas.

## **Member of the Year Award**

Our UARC President, Morris Farmer, AD7SR, has suggested the creation of a "Member of the Year" award, to be given to a UARC member who has made significant contributions to the hobby and/or the community as suggested in the "Basis and Purpose" section of the FCC rules.

For anyone who has not recently read the Amateur Radio rules, here is what the FCC considers the "Basis and Purpose" of our hobby (Section 97.1).

(a) Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications.

(b) Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.

(c) Encouragement and improvement of the amateur service through rules which provide for advancing skills in both the communication and technical phases of the art.

(d) Expansion of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts.

(e) Continuation and extension of the amateur's unique ability to enhance international goodwill.

Think about UARC members who have made contributions in one or more of these areas. If you have suggestions for one or more people who have made a substantial contribution in one of more of



these areas, email them to Morris at <mailto:ad7sr@arrl.net> on or before Monday, November 2.

## **Hams Listen to FRS to Help Find Missing Children**

Late on the afternoon of September 16, the police department in Post Falls, Idaho, received a 911 call that two juveniles — ages 9 and 11 — were missing from a Post Falls residence for about an hour. (Post Falls is in far northern Idaho in the upper portion of the panhandle.) According to the report, the pair had left home intending to play in the neighborhood with some Family Radio Service (FRS) radios. Several patrol cars were dispatched to the area to conduct a visual search, and detective Neil Uhrig, K7NJU, responded as officer in charge due to his training and experience with missing persons investigations. The initial search focused on a 2-mile radius from the missing kids' residence.

One officer received information from witnesses that the pair was probably using FRS Channel 1 (462.5625 MHz). An officer returned to police headquarters to retrieve some FRS radios for distribution to the patrol officers, in the event they might be able to hear the youngsters talking.

Uhrig, meanwhile, pulled out his VHF/UHF handheld with the thought of setting up FRS Channel 1 as an auxiliary frequency, but without the manual at hand, he wasn't able to execute the channel setup. But Uhrig did hear the Northwest Traffic Net (NWTN) that had begun at 6:30 PM on the local 2-meter repeater.

Checking into the net at about 6:45 PM, Uhrig explained the missing persons situation to net control station Shannon Riley, KJ7MUA, and asked if net participants in the Post Falls area with FRS capability could listen for the youngsters talking.

A number of stations promptly checked in to say they had FRS radios and were monitoring FRS Channel 1. It was assumed that only stations located

near the missing youngsters would hear them, given the limited range of FRS radios.

Not long after 7 PM, Jim Hager, KJ7OTD, reported hearing children talking on FRS Channel 1. Uhrig went to Hager's home to confirm his observation, and the patrol units were redirected to the new search vicinity. A short time later, the missing pair was found safe and returned home.

Uhrig said the most remarkable thing about the incident was that the missing youngsters turned out to be some distance from the original search area, and in the opposite direction from where they were thought to have been headed.

Net Manager Gabbee Perry, KE7ADN, said, "I'm so proud of what a superior job NWTN NCS Shannon [KJ7MUA] and all the operators did last Wednesday. It was a very unusual situation, but everyone had excellent focus and used their resourcefulness to help quickly find the missing kids." — *Thanks to ARRL Assistant Idaho Section Manager Ed Stuckey, AI7H (From the ARRL Letter.)*

## **SwaptoberFest on October 10**

Utah swap meets held during September in Davis County and Utah County were reported to have light turnouts this year, no doubt because of pandemic issues. There remains at least one more chance.

SwaptoberFest, typically the last ham swap-meet in the fall season, will be held on Saturday, October 10, at the Cache County Fairgrounds, bowery area, in Logan. There is no admission fee for buyers or sellers. Due to Covid-19, face masks are required. The event is scheduled to run from 9 A.M. to 1 P.M. For sellers who need setup time, the starting time is 8 A.M.

To find the location, enter at 400 South and 400 West. Drive on the left pathway down to just before the restrooms to your left and then make a right turn to the large grassy area that is in front of the Bowery, and park on the perimeter of the open

grassy area. Talk-in repeaters include 146.72 and 147.26, both requiring a PL tone of 103.5 Hz.

For further information including digital voice systems that can be used for talk-in, go to <https://barconline.org/swaptoberfest/>.

## **License Examination Schedule**

**Opportunities to test for new or upgraded amateur licenses**

Date	Day	City	Contact Person	Phone
10/07/20	(Wed.)	Ogden	Rick Morrison, W7RIK	(801) 791-9364
10/08/20	(Thu.)	Logan	Richard D. Elwood, KE7GYD	(435) 770-7050
10/21/20	(Wed.)	St. George <sup>2</sup>	Gary O. Zabriskie, N7ARE	N/A
10/26/20	(Mon.)	Taylorsville <sup>3,5</sup>	Garth Wiscombe, W7PS	(801) 558-5936
11/30/20	(Mon.)	Taylorsville <sup>3,5</sup>	Garth Wiscombe, W7PS	(801) 558-5936

**Note:** Many sessions that would normally be available have had to be canceled to meet Corona virus rules. Be sure to check with the listed contact person to make sure the session is still going to take place. If you can't find a session that meets your needs, you might consider an on-line test. Check <http://www.hamstudy.org/sessions> for sessions that still have openings. Note that for an *on-line* session it doesn't matter where the examiners are located.

<sup>1</sup>Preregistration required. Check with the contact person before the test session.

<sup>2</sup>More information at <http://www.dixieham.org/meetings.html>

<sup>3</sup>New location is the Taylorsville City Hall, 2600 Taylorsville Blvd, Room 110

<sup>4</sup>More information at <http://www.utaharc.org/Exams/>

<sup>5</sup>Preregister by going to <http://www.hamstudy.org/sessions/> and finding the session date.

More details at <http://user.xmission.com/~uarc/testinfo.html>

## **ARRL Fights FCC Proposal to Delete 3.4 GHz Amateur Band**

ARRL met via telephone with FCC staff members during the week of September 21 to emphasize its opposition to the FCC *Notice of Proposed Rulemaking (NPRM)* in Docket 19-348 to delete amateur radio from the 3.3 – 3.5 GHz band. The FCC will take final action in the proceeding when it meets on September 30.

In comments filed earlier this year, ARRL urged that the secondary status for amateur radio in the band be continued. In a series of meetings with Commissioner legal advisors and staff members, ARRL explained how continued secondary use by radio amateurs will not impair or devalue use of this spectrum by future primary licensees,

including those intending to provide 5G or other services. ARRL also stressed the various public-benefit uses of the spectrum by amateurs, including ongoing use of television and mesh networks on the west coast of the US as part of efforts to contain wildfires.

With regard to interference potential, ARRL stated that amateur radio operators using these bands are technically proficient and have a long history of sharing with primary users in this and other bands without causing interference.

(Thanks to the *ARRL Letter*.)

## **Member of the Month**

### **Tom Whitley, W7CMS**

**By Linda Reeder, N7HVF**

This month we are featuring Tom Whitley, W7CMS. Tom is 80 years old and has been in amateur radio for many years. As a young child Tom was fascinated with his dad's short wave radio. He loved listening to all of the contacts from all around the world. When he was a child Tom put together his first antenna. Tom's cousin, George, lived across the street from an amateur radio operator. His name was Tom Miller and his call sign was W7QWH. Tom Miller had a fantastic ham radio setup including a big antenna tower. Tom Miller was a college mathematics professor. He would invite the boys over to his house and let them talk on his radio. They were really impressed.

When Tom was in junior high his teacher had a brand new stereo wrap-around sound system. He really enjoyed listening to the music on it.

When Tom attended Olympus High School Tom's physics teacher had his ham radio license. His call sign was W7OSV. They used to call him "old sour vinegar." Olympus High school had a ham radio club and Tom received his first amateur radio license there. Tom's teacher invited the class to go with him to the Utah Amateur Radio Club meeting, so Tom went along. It was at the National Guard Armory on Sunnyside Avenue. Tom remembers what the speaker talked about. Back then CW and A.M. radio were almost the only modes available. The speaker talked about Single Sideband, a new facet of amateur radio. The speaker said that A.M. radio took up too much space and Single Sideband was much better. Tom still listens to A.M. radio today. Tom joined the club that night and has been a member to this day. Tom was the treasurer for many years. He is good at managing money. They never went in the hole. They always had what they needed. Tom particularly likes Field Day and the steak-fry.

Tom says amateur radio is very educational. Through the years Tom studied real hard to upgrade his ham license. Tom took five tests over the years: Novice, Technician, General, Advanced and Extra. Tom has a 781 ICOM. Tom says it still works great after all of these years. Tom also built a transmitter. He loves transmitter hunting and finding hidden transmitters. He also loves to work DX stations.

Tom has always been active in amateur radio. He took it with him wherever he went. Tom says ham radio is a wonderful fraternity.

Tom's father was born in Suttan Colfield, England. One time Tom went to England to visit family. While he was there he contacted a ham radio operator whose callsign was W7FNF. Tom introduced himself to the ham radio operator and told him he was a ham radio operator from Salt Lake City, Utah. The operator told Tom to come right in and introduced him to all of his ham radio friends. Tom had a wonderful time.

Tom received his bachelor's degree in statistics and minored in computer science at BYU. He received his master's degree at Chapel Hill University in North Carolina. There was a ham radio club at this University and Tom joined. He had a great deal of fun there as he had had in the BYU club.

Tom worked for the Utah State health department in vital records. Then department offered Tom a job in data processing. They knew he was good at this. Tom was very excited; he really loved this job. Tom said that ham radio helped him in his career.

Tom is good at building things and fixing things. He told me about the time ham radio came to his rescue. Tom was on a business trip in Washington state. He

was trying to cash a check, but no one would help him because it was a two-party check. Then, as he was looking in his wallet, he found his ham license. Someone at that bank was a ham radio operator and arranged for him to cash his check.

Tom was in the Army reserves for eight years and ten years in Army MARS. He would make calls by way of amateur radio and would let the soldiers talk to their loved ones. One time he made a call to let family know that the soldier arrived in Japan safely.

Tom and his wife Colene have three boys and one girl plus eight grandchildren.

Tom works with the Boy Scouts. He helps them with their merit badges and other activities. Tom enjoys Field Day and steak-fry.

Tom has a very important message that he would like to share with everyone. Tom said it is very important to learn how to keep things in perspective. Remember that your family comes first. Remember

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what your responsibilities are. Learn how to balance things. Then you can have a happy marriage and enjoy your hobby. Tom says it doesn't matter what type of hobby you have. Tom told me there was a neighbor who enjoyed stamp collecting and he had to declare bankruptcy.

Tom, thanks for letting me have the opportunity to interview you. Thanks for your contributions to amateur radio.



Tom Whitley, W7CMS