

The *Microvolt*

March, 2017



Prologue

Publication: *The Microvolt* (USPS 075-430) is the official publication of the Utah Amateur Radio Club, Incorporated, 699 E. South Temple Ste 100, Salt Lake City, UT 84102-1282. 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 Dick Keddington, 5474 Hews Place, Taylorsville, UT, 84129-1416.

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: Dick Keddington, 5474 Hews Place, Taylorsville, UT, 84129-1416.

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: Dick Keddington, KD7TDZ, 5474 Hews Place, Taylorsville, UT 84129-1416.

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 2017 Board

President: Clint Turner, KA7OEI	801 566-4497
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Historian: Ron Speirs, K7RLS	801 904-3587
Field Day Chair: (To be determined)	
License Trustee: Brett Sutherland, N7KG	801 298-5399
Repeater Engineer: Randy Finch, K7SL	801 556-7565
ATV 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.



For account information go to:

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

Or call 801 539-0852



The Microvolt

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March Meeting: Contest-Quality Transceivers

What is a “Contest Quality” (or “DX-Quality”) transceiver? This is a term that has somewhat recently been appearing in advertising instead of hard numerical data such as “lowest intermod ever.” Does the term really mean something? Do DXers really need a different kind of rig from traffic-handlers or rag-chewers? Come to the March meeting and learn more.

Jed Petrovich, AD7KG, a serious DXer will be presenting our March 2 meeting on the unique needs of those involved in DXing and contesting. Come and find out what's essential, what's helpful, and what's just a luxury to brag about.

The meeting will take place at 7:30 P.M. on Thursday, March 9, in room 1230 (the “Duke” classroom) of the Warnock Engineering Building.

UARC meetings are held on the second Thursday of each month at 7:30 P.M., in the Warnock Engineering Building on the University of Utah campus. The meeting, during the University's spring semester of 2017, will be in room 1230, the “Duke” classroom. To find the room, if you enter through the main (east) door, just go straight down the hall to the last classroom on the right. See the map at <http://user.xmission.com/~uarc/meetmap.html> for information on finding the building. (The room number varies through the year depending on availability.)

Of course, the meeting will include the “standard” meeting features:

- Availability of ARRL books from Brett or John, the “book ladies”
- An opportunity to join UARC or renew your membership
- An opportunity to join ARRL or renew your membership
- The chance to meet face-to-face the people you talk to on the air
- The “Meeting after the meeting”: A chance to enjoy pizza or other gastronomic delights with other hams. It happens at Litza's Pizza, 716 E. 400 South.
- The “Meeting *before* the meeting”: A similar get-together for those who can leave work early enough to get there by 5:15 P.M. It is held at “The Village Inn,” 910 E. 400 South in Salt Lake City.

Latest News

Our Cover

Our cover this month features UARC President Clint Turner, KA7OEI, who presented our February meeting about Software-Defined Radio (SDR), a technology which is becoming more and

more prevalent in amateur radio equipment. Clint discussed multiple ways in which one can get acquainted with SDR for receiving or for both transmitting and receiving. . (Thanks to K7RLS for the photo.)

License Classes

We will be offering a Technician license course beginning Monday, April 10th, and a General license upgrade course starting Tuesday, April 11th. Each course will run about eight weeks plus an exam at the end. Classes will be taught in Morris' "shack" located about 5000 South and 1500 East from 7-9 PM each week.

There is no charge for the course. We use the ARRL *License Manual* as our text. It will be available at the class for \$30. Either pay in cash or by check made out to UARC.

If you are interested please contact Morris Farmer, AD7SR by email at: <mailto:f.morris1@comcast.net> as soon as possible so we can be sure to have enough books on-hand.
—Morris Farmer, AD7SR

Towers Down at Frisco Peak

In early February high winds took down towers at Frisco Peak, northwest of Milford, putting the 146.94 repeater, a major element of the Intermountain Intertie, off the air. The site served Cedar City and a large chunk of Interstate 15 and was also an important link connecting northern Utah and southern Idaho to repeaters in Nevada and Arizona. It is estimated that repair will not be practical until summer.

Some photos of the damage can be found at: <http://user.xmission.com/~uarc/announce.html#frisco>. Thanks to AD7SR for annotations

As if to add insult to injury, a few days after the Frisco Peak damage, storm damage caused another repeater in the Intertie to go off the air. The 147.02 repeater serving the Bear Lake area was hit and is likely to be off the air for some time.

Digital Communications Conference: March 25

The Utah Digital Communications Conference will be held March 25th, 2017, in Sandy, Utah. The web site at <http://www.utah-dcc.org/> now contains additional information on topics to be covered, including both digital voice modes and raw digital modes for HF, meteor scatter, and moonbounce communications.

Location is the Karen G. Miller Conference Center on the Miller Campus of Salt Lake Community College, 9750 S. 300 West, the same site where the Great Salt Lake Hamfest was held in 2016. The Conference Center is near the southeast corner of the campus.

Cost for preregistration is \$12 and can be paid on the web site.

WIMU '17: June 16-18

After a number of years of non-existence, the Wyoming-Idaho-Montana-Utah (WIMU) Hamfest will be held this year at Garden City, Utah. John Jacobs, W7DBO, writes:

"This great traditional hamfest will be held in Bear Lake, Utah, June 16-18, 2017. Bear Lake is a great destination point for families to vacation while attending the hamfest. Activities will be held at the Garden City Conference Center and Park. Activities include: Outdoor vendors, swap meet, women and youth/child activities, fox hunt, special event station, and much more is planned for the hamfest."

Information about accommodations is now on the WIMU website. For that and other hamfest details, see: <http://www.wimuhamfest.org/>.

Rocky Mountain Division Convention May 26-28

The 2017 ARRL Rocky Mountain Division Convention will be held on Memorial Day weekend, May 26-28 in Cody Wyoming at the Cody Holiday Inn. It is expected to draw attendees from the four states which compose the Rocky Mountain Division: Colorado, New Mexico, Wyoming, and Utah.

There had been some worry that planning for the convention had gone awry when the opening date for pre-registration came and went with no details appearing on the web site. However, Division Director Dwayne Allen, WY7FD, recently visited the Cody group and assures us that plans are moving ahead.

For more information see the convention web site at wyominghamcon.org plus the Facebook page at: <https://www.facebook.com/groups/246764465763764/>

ARRL Survey Regarding Licensing Structure

The American Radio Relay League (ARRL) is looking for input on suggestions for change in the U.S. amateur radio licensing structure. Even though the number of licensed amateurs is at an all-time high, actual activity seems to be decreasing as well as the number of new licensees under the age of 30. Last year the ARRL Board of Directors appointed a committee to study the situation.

That committee is now seeking member input on the possibility of changing requirements and/or privileges for the Technician license as well as the addition of a new license class with simpler requirements and offering privileges giving a sampling of facets of the hobby from HF to UHF.

The new license class might eliminate privileges for repeater control, beacons, automatic control, and space station control, allowing a simplified examination.

A survey can be accessed on line at <http://www.arrl.org/license-1>. It should be completed no later than April 7.

More DX Card Checkers Needed

One of the most popular awards in amateur radio is called the "DX Century Club" or DXCC. The initial version of the award is given to amateurs who have worked 100 countries. Other versions include ones for working countries beyond 100, up through the 300+ defined DXCC "entities," and working 100 countries on each of five bands.

The required proof to obtain the award has traditionally been physical QSL cards. To eliminate the problem of sending and insuring a large stack of cards, certain DXers have been appointed as "field checkers," people who can look at a collection of cards and confirm that the owner has qualified for one of the awards.

A recent letter from our Rocky Mountain Division Director, Dwane Allen, WY7FD, referring to the recent meeting of the ARRL Board of Directors, states:

"The problem with the shortage of DXCC Card-Checkers in the Division is half solved. During the meeting, I made a motion to accept the recommendations of an ad hoc committee assembled to revamp the program. One of the recommendations was to double the number of Division level Card-Checkers. I am in the process of finding a suitable candidate on the west side of CO. After a new checker is in place there, I will study the areas of the division that may be in need of more checkers. I am open to suggestions on this topic so if you are interested or know of someone who is, please do let me know."

Amateur Radio Parity Act Passes House of Representatives

The Amateur Radio Parity Act, a bill that might help solve the problem of antenna restrictions on property with covenant restrictions, sailed through the United States House of Representatives on January 23. Passage of the bill, now known as H.R. 555, took place only 10 days after introduction in the new Congress.

The bill again is sponsored by Rep. Adam Kinzinger (R-IL) and has picked up co-sponsorship by Rep. Joe Courtney (D-IL) and Rep. Greg Walden, W7EQI (R-OR).

ARRL says it is imperative that amateurs continue to support the bill as it moves to the Senate. As before, this support can take the form of e-mails, phone calls and letters to senators.

Handling Malicious Signals

Every so often an unidentified signal appears on the air that seems to serve no purpose but to annoy those using a repeater. Sometimes it's an unmodulated carrier clobbering one of the participants in the QSO, other times it's strange noises, and still other times it's just a volley of short "ker-chunk's" of the repeater. The thing *not* to do is make a transmission something like:

"Whoever you are, you are violating regulations of the *Federal Communications Commission* and if you don't stop it *immediately* we will *report* you and you will receive a large fine or go to *jail!*"

The folks that do this sort of thing are usually looking for attention, so the best way to make it go away is not to give them any. Ignore it if you can or, if the station you're working doesn't understand, fill him in as briefly as possible. Maybe something like:

"Missed the address on Elm Street, there was another signal on for a moment."

One thing you *can* do is push your "reverse" button and see if you can hear the signal on the repeater input, and, if so, note how strong it is. Everyone should know how to actuate the reverse function on his radio. Check your manual if you don't know. The reverse function lets you listen on the repeater input frequency so you can hear the user's signal directly. In other words you're now listening directly to the other station's transmitter rather than the repeater's transmitter. Remember to get out of the reverse mode before you transmit again.

Unfortunately, there are a few rigs that don't have a reverse function. The best solution in those cases is to program some extra channels on your transceiver. Insert a channel next to the one of your most commonly used repeaters. Program it for simplex on the repeater's input frequency. For example, for 146.62 you would program the adjacent channel for 146.02 *simplex* (no offset). Now the substitute for a reverse is just to bump your radio up to the next channel.

If multiple operators make this observation and confer with each other, it may be possible to get a general idea of the neighborhood where the signal is originating. Those hearing the strongest signal are probably the closest, and those that can't hear it at all are probably some distance away.

If the signal is rapidly changing strength up and down, it's an indication the station is in motion, possibly a mobile.

If you *really* want to help track down the problems, you might consider equipping yourself with some direction-finding equipment. There is a variety of schemes that can be built or purchased. The classic book on the subject is *Transmitter Hunting and Radio Direction Finding Simplified* by Joe Moell, K0OV, and Thomas Curlee, WB6UZZ. It examines different techniques with

the advantages and disadvantages of each and some homebrew projects that you can build

yourself. It is available from most ARRL book dealers.

License Examination Schedule

Opportunities to test for new or upgraded amateur licenses

Date	Day	City	Contact Person	Phone
03/01/17	(Wed.)	Clearfield	Mike Youngs, KK7VZ	(801) 573-3922
03/04/17	(Sat.)	Logan	Richard D. Elwood, KE7GYD	(435) 770-7050
03/15/17	(Wed.)	Provo	Steve Whitehead, NV7V	(801) 465-3983
03/15/17	(Wed.)	St. George ²	Gary O. Zabriskie, N7ARE	N/A
03/27/17	(Mon.)	Taylorsville ^{1,3}	Garth Wiscombe, W7PS	(801) 558-5936
04/01/17	(Sat.)	Salt Lake City ^{1,4}	Gordon Smith, K7HFV	(801) 582-2438
04/08/17	(Sat.)	Hurricane ²	Gary O. Zabriskie, N7ARE	N/A
04/15/17	(Sat.)	Logan	Richard D. Elwood, KE7GYD	(435) 770-7050
04/19/17	(Wed.)	Provo	Steve Whitehead, NV7V	(801) 465-3983
04/19/17	(Wed.)	St. George ²	Gary O. Zabriskie, N7ARE	N/A
04/24/17	(Mon.)	Taylorsville ^{1,3}	Garth Wiscombe, W7PS	(801) 558-5936

¹Preregistration required. Check with the contact person before the test session.

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

³New location is the Taylorsville City Hall, 2600 Taylorsville Blvd, Room 110

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

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

Member of the Month

Bob Rusick, K7RFR

By Linda Reeder, N7HVF

This month we are featuring Bob Rusick, K7RFR. Bob was exposed to amateur radio when he was a teenager. His friend, John Galarno, who worked or Geneva Steel as a superintendent, was an amateur radio operator. He invited Bob and his very best friend in high school, Kent Angel, W7VZ, to come over to his ham shack and watch him make contacts around the world. This sparked their interest in getting their ham radio licenses. They received their Novice licenses in 1955 while they were attending American Fork High School. Bob was 15 years old. His Novice call sign was

WN7GKT. One year later he upgraded to General and his call sign became W7GKT.

Bob's first rig was a Heathkit DX-35 CW transmitter and National NC-300 receiver. Bob worked hard and saved a lot to buy that fine receiver. Then, at age 17, Bob sold the station to buy a car. When Bob was 21 and married, he built a Heathkit Apache TX-1 transmitter and bought a Hammarlund HQ-180X receiver and was back on the air.

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In 1966 Bob graduated from BYU with a degree in electrical engineering. He and his wife, Mary Ann, have two boys and 14 grandchildren. After graduation Bob moved his family to Newport Beach,, California to begin a career and make some money. Bob was a design engineer for several companies and was initially too busy to get on the air. His license lapsed until 1979 when he was relicensed with the call sign N6BNN. While in California Bob was very active in amateur radio and received his DXCC award, Worked All States and all counties. The LDS Church wanted Bob to build an emergency radio response system. It is known as Emergency Response Communication Network.

In December, 2002, Bob retired. Bob says now he has more time for hamming, traveling and spending time with his 14 grandchildren. In February, 2007, Bob and his wife, Mary Ann, moved back to Utah, settling in Lehi. He joined UARC and secured the new vanity call sign, K7RFR. Bob's current station is an Elecraft K3 transceiver and P3 Panadapter, Icom IC-706MkIIg transceiver, and an Ameritron ALS-600 solid-state amplifier. His HF antenna is an Outbacker Outreach 500 80-meter vertical with Outpost tripod base mount. He operates PSK-31 and

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sometimes Echolink.

Bob's favorite thing about amateur radio is all of the wonderful friends he has made through the years. I first met Bob on the 7.228 MHz frequency on the MARA net. Bob is the manager of the Mercury Western Net for emergency communications. They now meet on the 7.178 Saturday mornings at 9 A.M. I also used to talk to Bob on the 145.220 repeater when I would go California for the Handiham camp and to visit my friend, Anne Wright, N6BOP.

Bob, thanks for all of your contributions to amateur radio.



Bob Rusick, K7RFR, and his station