

# The *Microvolt*

November, 2018



## 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 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 2018 Board

President: Morris Farmer, AD7SR	801 278-4966
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### Committee Chairpersons and Members

Bookseller: Rick Gregory, JKG7GOW	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: 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>

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# The Microvolt

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## November Meeting: Understanding Equipment Reviews and Test Reports

So, why read equipment reviews? Some of the reasons are obvious, some not so much. Considering the cost of ham gear, most hams want to get the best equipment they can afford. Others might be satisfied if they find something that fits their needs as long as it doesn't have any serious problems.

Reading equipment reviews — in the ham magazines and online — may help when considering the purchase of new or used equipment. At the November 8 UARC meeting, Clint Turner, KA7OEI, will help us to understand product reviews and test reports as well as to make sense of reviews found online. If you are planning equipment purchases, this will be a great meeting to attend.

Clint has been working with RF for many decades and built from scratch many of the RF modules used in the new Northern Utah SDR system. He has frequently performed many of the measurements that determine the performance of a piece of RF equipment and is eminently qualified to speak on the topic.

The meeting will be on Thursday, November 8, in room L103 of the Warnock Engineering Building on the University of Utah campus. The meeting will also feature nominations for 2019 club officers. The nominating committee will present its choices and nominations will be accepted from the floor.

During the University's fall semester, meetings will take place on the second Thursday of each month at 7:30 P.M. in room L103 of the Warnock Engineering Building. To reach the "L" three-digit numbered rooms, take the elevator in the southwest corner of the main floor down to level "L1." (The elevators near the east entrance don't go there!)

See <http://user.xmission.com/~uarc/meetmap.html> for a map and information on finding the building. The room number varies depending on availability.

Of course, the meeting will include the "standard" meeting features:

- Availability of ARRL books from Rick, the book seller
- 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 is from October's "Homebrew Night." It shows Dave Ward, AE7E, showing his directional coupler for a homebrew VHF/UHF SWR meter. Dave was one of nine folks who showed items they had constructed. Thanks to club historian Ron Speirs, K7RLS, for the photo and those that will soon be on <http://www.utaharc.org/hb18.html>. Check it out for more Homebrew Night photos.

### Nominations

It's time to think about officers for 2019! Year-end is not all that far away and the bylaws require nominations for office to be brought up at the November meeting. Nominations from the floor will be taken and the Nominating Committee will present its choices.

Being on the Board of Directors can be interesting and fun. You have a chance to put forth ideas about what we could do for our members and possibly for the hobby in general., and to get acquainted with the other officers. If you have a little extra time each month, you might consider volunteering.

If you aren't interested in volunteering, you may still know some qualified folks who would make good officers. If so, contact them and get their permission to be nominated. If they need a little time to think about it, there will be another chance to nominate at the December meeting, just before elections are held.

Another way you can help is to pass your ideas along to the officers. What kinds of meeting programs would you be interested in? Is there a new mode you'd like to learn more about? Are you looking for the best antenna for a particular situation? Would you like to know how to get

started in contesting? Let the officers know of your needs.

Still another way you can contribute is to provide material to *The Microvolt*. Perhaps you've had fun at a public service event, tried out a new rig, or discovered an unlikely noise source clobbering one of the HF bands. Tell us about it! If you don't like to write, just give the editor a phone call or an email and tell the details. We can put the ideas into words.

Bottom line: help us make UARC better!

### Operate on a Lightbulb

We have received a request to spread the word about a new kind of operating event coming up: the *Lightbulb QSO Party*.

The event is described as follows:

"The Objective of the Lightbulb QSO party is to build and use an antenna constructed in a manner so that the lightbulb is the main radiating element and to promote understanding and practical application of antenna matching concepts that allow a lightbulb to be used as a radiator in two-way radio communications."

Sound outrageous? Well, it's not entirely impractical. Back a few decades ago it was common for instruction manuals to recommend that you test your newly-built transmitter kit by using a plain old incandescent bulb as a dummy load. Some of us discovered (upon receiving a phone call) that not all the transmitter power was going into light! So if a bulb sitting on the table could get out for a few blocks, just think what one on the roof could do.

If using a lightbulb for your antenna sounds a bit disabling, at least all your competition will be under the same handicap.

Some years ago we had a slide-show from a well-known DXer showing a picture of a lightbulb on a wooden railing around a ham's house. The ham had made a very high score in a DX contest using his lightbulb antenna. His point was to show that with good operating skill can overcome a setup that is less than ideal. Of course his location on a high hill overlooking most of the bay area didn't hurt.

In any case, the contest will be held next March. It runs from 2000 UTC on Saturday, March 9, through 2000 UTC on Sunday, March 10. (In MST that's 1 P.M. on Saturday through 1 P.M. on Sunday.) The winner in each of five categories will be declared the "Top Bulb." The five categories seem to be defined by the type of bulb used. They are Household, Commercial/Industrial, Homebrew, Dummy Load, and Freestyle.

For more information see:

<https://hamsignal.com/blog/the-lightbulb-qso-party>.

## **Are Baofeng Hand-Helds Illegal?**

The inexpensive Baofeng Chinese-made transceivers have quite possibly become the most popular amateur rig sold in recent years. The radios had some technical deficiencies but the remarkably low price has made them incredibly popular, particularly among new hams looking for a low-priced way to get started in the hobby.

So it was a bit of a shock when the FCC issued a public notice on September 24 about "low-cost, two-way VHF/UHF radios that do not comply with the FCC's rules." It went on to say that "Many of these violate one or more FCC technical requirements. ... Because these devices must be, but have not been, authorized by the FCC, the devices may not be imported into the United States, retailers may not advertise or sell them, and no one may use them."

The main problem with this kind of transceiver is that to be used in any of the land-mobile services it must be "type-accepted" by the FCC. Most of the units in question can transmit on land-mobile frequencies but are not type-accepted for use in those services, and violate some of the standards for such acceptance. One such standard is that a transmit frequency cannot be set by the operator from the front panel. This is a reasonable

restriction because it keeps bulldozer operators from discovering frequencies on which they can chat without their foreman being aware, but also might be clobbering a police dispatcher or the tower frequency at the nearest airport.

Equipment used in the Amateur Radio Service does not require type-acceptance. This fact has been a gift to our service that allows us to build our own transmitters from scratch or to modify commercial or military surplus equipment. This, in turn, has helped us learn more about RF circuitry and even develop new modes and techniques.

One of the reasons for this freedom is that, unlike bulldozer operators, we have to take a test and obtain an operator's license before we can transmit. It is hoped that this ensures we know what bandplans are and can be sure we obey the rules regarding modes, bandplans, and spurious signals.

So, is it still in violation of the rules for us to use the imported transceivers to which the FCC refers? Clearly the FCC is not happy with folks using equipment that can transmit over such a wide range of frequencies, but in the case of amateur radio, is it actually not permitted?

ARRL has been having discussions with the Commission over this point. They write in the October 4 edition of *The ARRL Letter*:

“While much of this equipment is actually usable on amateur bands, the radios are also capable of operation on non-amateur frequencies allocated to radio services that require the use of equipment that has been FCC certified,” ARRL said. “Such equipment is being marketed principally to the general public via mass e-marketers and not to Amateur Radio licensees.”

ARRL said the upshot is that the general public has been purchasing these radios in large quantities, and they are being used on the air by unlicensed individuals.

“Radio amateurs have complained of increased, unlicensed use of amateur allocations by people who are clearly unlicensed and unfamiliar with Amateur Radio operating protocols,” ARRL said. But while it supports the general tenor and intent of the Enforcement Advisory, ARRL said it disagrees with the FCC on one point.

“In several places, the Enforcement Advisory makes the point that ‘anyone importing, advertising, or selling such noncompliant devices should stop immediately, and anyone owning such devices should not use them,’ ” ARRL pointed out. “The Advisory broadly prohibits the ‘use’ of such radios, but our view is that there is no such prohibition relative to licensed Amateur Radio use — entirely within amateur allocations — of a radio that may be capable of operation in non-amateur spectrum, as long as it is not actually used to *transmit* in non-amateur spectrum.”

ARRL has had extensive discussions about this issue with FCC Wireless Bureau and Enforcement Bureau staff, and those discussions are ongoing.

“It is important to protect the flexibility of the Amateur Service as essentially an experimental radio service, but it is also very important to stop the unlawful importation and marketing of illegal radios in the United States and the use of those radios by unlicensed persons,” ARRL maintained. “We will keep our members informed as our discussions with FCC on this subject continue.”

## License Examination Schedule

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

Date	Day	City	Contact Person	Phone
11/10/18	(Sat.)	Bluffdale	Erik Swanson, KG6GOP	(510) 684-3669
11/21/18	(Wed.)	Provo <sup>5</sup>	Steve Whitehead, NV7V	(801) 465-3983
11/21/18	(Wed.)	St. George <sup>2</sup>	Gary O. Zabriskie, N7ARE	N/A
11/26/18	(Mon.)	Taylorsville <sup>3,5</sup>	Garth Wiscombe, W7PS	(801) 558-5936
12/01/18	(Sat.)	Salt Lake City <sup>1,4</sup>	Gordon Smith, K7HFV	(801) 582-2438
12/01/18	(Sat.)	Logan	Richard D. Elwood, KE7GYD	(435) 753-4360
12/05/18	(Wed.)	Clearfield	Joe Giraud, N7JEH	(775) 777-4798
12/08/18	(Sat.)	Hurricane <sup>2</sup>	Gary O. Zabriskie, N7ARE	N/A
12/19/18	(Wed.)	Provo <sup>5</sup>	Steve Whitehead, NV7V	(801) 465-3983
(St. George and Taylorsville sessions omitted in December)				

<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>.

## **New Addition to Intermountain Intertie**

There has been a new repeater added to the Intermountain Intertie, the system of repeaters that covers from West Yellowstone to Las Vegas with branches into Wyoming and Arizona.

The new addition is the 145.49 MHz machine which has been in service for several decades serving principally the Ogden area, but easily reaching into the Salt Lake Valley. Its location is the Promontory Mountain Range (*not* Promontory Point) on a peninsula jutting south into the Great Salt Lake. It is roughly straight west of Seventh Street in Ogden. It should make it much easier for stations in the northern part of the Wasatch Front to access the Intertie.

Currently, the repeater requires users to send the traditional 123.0 Hz CTCSS tone, but in the future it will be changed to 100.0 to match most of the other Intertie repeaters.

The Intermountain Intertie is sponsored by the Utah VHF Society and boasts interconnections done entirely using VHF and UHF radio. It has no reliance on Internet. That independence should

improve its chances of remaining in service through a widespread emergency.

More information about the Intertie can be found at: <http://utahvhfs.org/snowlink.html>.

## **January License Classes**

Starting in January, UARC President, Morris Farmer, AD7SR, along with Bill Rouleau, AE7UI, and Ron Speirs, K7RLS, will conduct classes for those seeking a new or upgraded amateur license. Classes will meet weekly, from 7 to 9 P.M. at Morris' house. The only cost is for the text that will be used: the ARRL *License Manual* for the appropriate class of license.

The schedule is as follows:

<b>License Class</b>	<b>Day of Week</b>	<b>Starting Date</b>
Technician	Mondays	1-14-19
General	Tuesdays	1-15-19
Extra	Wednesdays	1-16-19

Space is limited, so anyone interested should contact Morris at: [ad7sr@comcast.net](mailto:ad7sr@comcast.net) as soon as possible..

## **Member of the Month Christopher Fielding, KG7IVS**

**By Linda Reeder, N7HVF**

This month we are featuring Christopher Fielding, KG7IVS. Christopher received his Technician license in February of 2014. He studied the ARRL *License Manual*, went to a one-day BYU class, and passed the test. Christopher studied for his General and Extra class licenses using Gordon West materials and obtained his General license in June of 2015. He went on to get his Extra in May, 2016.

Christopher grew up with amateur radio. His Dad, Phil Fielding, has been licensed since Christopher was a little boy. His dad's current call sign is KN7PF. Christopher's dad was his inspiration. His only regret is that he didn't get licensed sooner. He missed out on the fun he has had communicating with his dad on amateur radio.

Christopher got his brother, Brandon, WA7QWS, and his friend, Justin May, KD5WTF, interested in

amateur radio. Both of them now have their General class licenses. They moved fast, doing their studying on line.

Christopher and his wife, Karrie, have been married for 20 years. They have five children: three boys and two girls, having ages 16 to 8 years. Christopher is trying to get them interested in amateur radio.

When I asked Christopher what he liked best about amateur radio he said the challenge of new technology available to amateur radio. There is so much to learn. He enjoys making contacts on the HF bands and being able to talk to people all over the world. Christopher's main station is a portable, backpackable unit using a Yaesu FT-850D and a Milwhip antenna.

Christopher and John Jacobs, W7DBO, both work for the State of Utah Police Academy. Christopher works with the media, helps train officers in law enforcement, and works on their computer system.

Christopher and John participate in ham radio events with John's father, Larry, WA7ZBO. They attend Field Day at Strawberry Reservoir where they have made lots of contacts. This is where Christopher used digital communications. They

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also participate in transmitter hunts and attend hamfests. They went to the hamfest in Bear Lake last year. They also help with public service events throughout the state of Utah, helping the runners.

Christopher is a member of UARC, Utah VHF Society, and the ARRL. As a volunteer examiner for ARRL and W5YI, he helps administer ham radio tests.

Other hobbies Christopher enjoys are camping with his family, reading, going to movies, traveling, gardening and spending time with his family.

Christopher, welcome to the hobby.



Christopher Fielding, KG7IVS