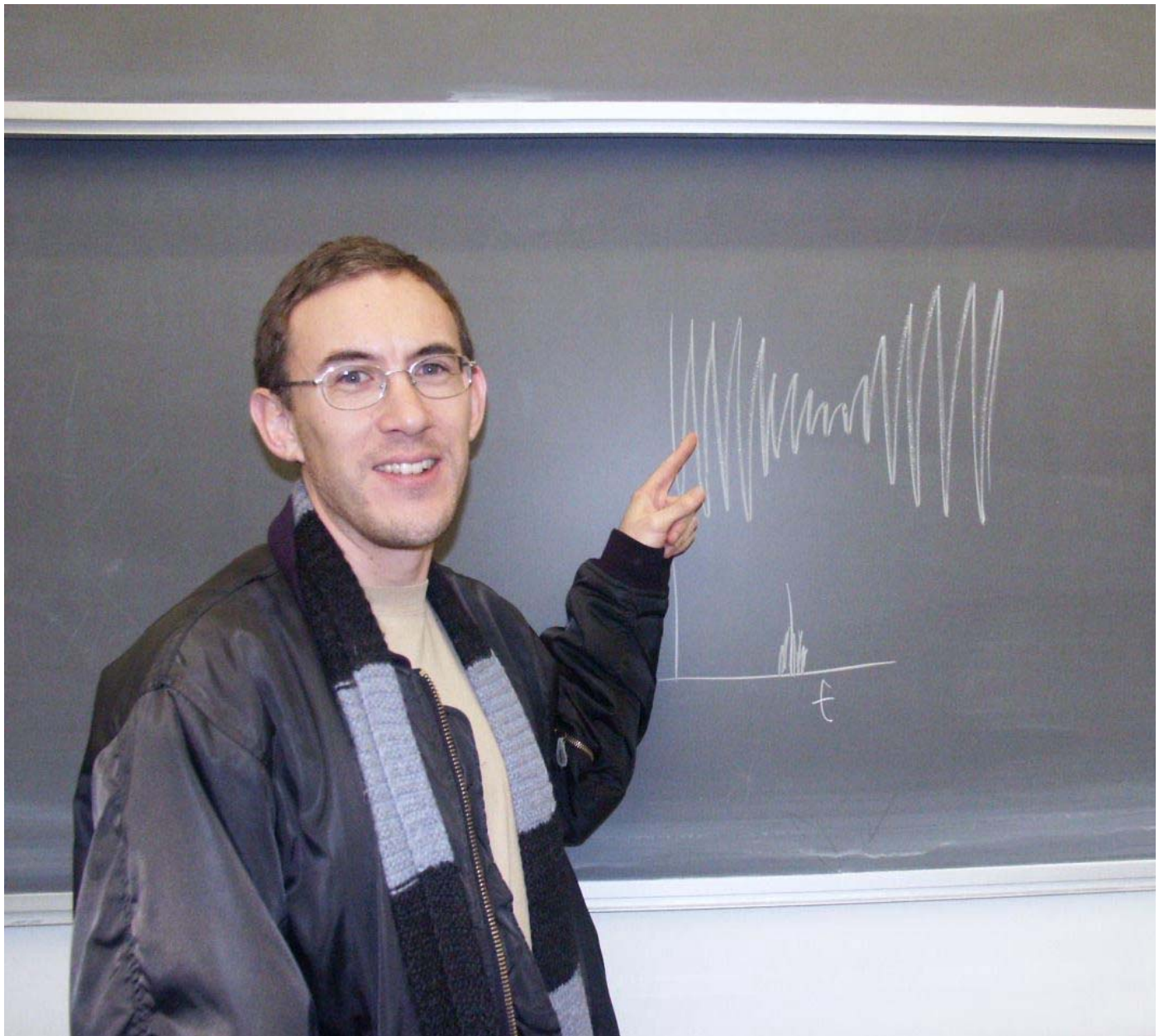


The *Microvolt*

March, 2011



The Microvolt March 2011

Prologue

Publication: *The Microvolt* (USPS 075-430) is the official publication of the Utah Amateur Radio Club, Incorporated, 3666 S. State Street, Salt Lake City, UT 84115-4848. It is published monthly except August. Subscription is included with club membership at \$17 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, 1783 Woodside Drive, Holladay, UT, 84124-1620.

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, 1933 Woodside Drive, Holladay, UT, 84124-1632.

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.

Membership: Club membership is open to anyone interested in amateur radio; a current license is not required. Dues are \$17 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 \$17 may obtain a membership without a *Microvolt* subscription for \$9. Send dues to the Club Secretary: Dick Keddington, KD7TDZ, 1783 Woodside Drive, Holladay, UT 84124-1620.

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 2011 Board

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Executive VP: Andrew Madsen, AC7CF	801 419-8378
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"Book Lady": Brett Sutherland, KI7KM	801 298-5399
Historian: Ron Speirs, K7RLS	801 904-3587
Field Day Chair:	
Club Trustee: Brett Sutherland, N7KG	801 298-5399
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://www.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:
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Or call 801 539-0852



The Microvolt

The Official Publication of the Utah Amateur Radio Club, Salt Lake City, Utah
Volume 54, Issue 3, March 2011

March Meeting: All About Batteries

A lot of us rely on batteries daily to keep handhelds and other equipment running. We're frustrated when they run down unexpectedly, don't keep their charge on the shelf, or reach the point in their life cycles where they will no longer hold a charge. How can we best work around these problems? What are batteries made of? What are the advantages and disadvantages of various types and how can we take care of them?

These are some of the questions that will be answered at the March UARC meeting to take place on Thursday, March 10, at 7:30 P.M. Jim Brown, NA7G, will be telling us enough about various kinds of batteries that we can choose, how to choose wisely, and how to get the best performance from our choices.

Meetings are held on the second Thursday of each month, and during Spring Semester will be in room 2230 (the "Clark" classroom) of the Warnock Engineering Building at the University of Utah. This is on the second floor immediately above room 1230 where we met during the fall.

Some of our traditional parking on the east side of the building is blocked off for construction, so if you find it full, another recommended parking area is near the southeast corner of the Merrill Engineering Building lot. Go south along the east side of Merrill, then go in the north door of Warnock. See http://www.xmission.com/~uarc/ab1ip_meetmap.html for information on finding the building.

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

- Availability of ARRL books from Brett, the "book lady"
- 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. The March get-together will be at "Greek Souvlaki," 404 E. 300 South in Salt Lake City.

Latest News

Our Cover

Our cover this month shows Program Chairperson Gary Wong, AB1IP, drawing diagrams from his talk at our February meeting about modulation. Gary discussed several types of modulation that can be used to put useful information onto a radio carrier and, for each one, displayed diagrams showing how it appears in the time domain, the frequency domain, and as a change of phase vectors.

Should We Enter Field Day?

UARC's entry in the annual Field Day contest has been one of UARC's most popular activities each year. But there is some question whether we will be holding it in 2011. We are still looking for someone to coordinate the event and act as its chairperson.

Field Day is an annual contest sponsored by the American Radio Relay League (ARRL) for portable and mobile stations to make as many contacts as possible in 24 (or 27) hours. This year it will be held June 25 and 26.

Traditionally, we have entered from the Payson Lakes area. But to do so, we need a chairperson, someone to make sure all the pieces come together properly. Are there any volunteers? There will be lots of help available, but someone is needed to coordinate the effort and make sure all the stations are complete and that the towers don't get erected so the two beams are aiming at each other. If you would like to help, get in touch with any of the club officers.

Vintage Radio Night

Are you one of the folks who remembers when the principal manufacturers of amateur radio

equipment were Hallicrafters, Hammarlund, National, Collins, Swan, and Drake? Perhaps you even have some gear from that period? Or maybe you remember when converted military surplus gear was commonplace? Are you of the school that "real radios glow in the dark"? Then you might be able to help us with "Vintage Radio Night" coming up in May.

On Thursday, May 12, the meeting will be devoted to radio gear from the 70's or earlier. Unlike Homebrew Night, the focus will be on commercial equipment, although a homebrew transmitter or receiver representative of the period would be welcome as well. Anyone who would like to bring in a piece of equipment from that period is welcome to do so and tell us about it. Mark your calendar.

70-cm Band Threatened

A bill now in Congress threatens to take away 2/3 of our 70-cm band. The bill, HR-607, "The Broadband for First Responders Act of 2011," is intended to set aside spectrum at 700 MHz for emergency purposes. This spectrum was originally intended to be auctioned to the highest bidder after the switch to digital television. To make up for the loss of revenue caused by this change, the bill proposes to auction 420-440 MHz. Current uses of this part of the band include amateur television (ATV), simplex and repeater communications, moonbounce (EME), weak signal operations (SSB/CW), propagation beacons, amateur satellite communications, auxiliary operations, and FM repeater linking and control.

ARRL recommends that amateurs write to their representatives in Congress opposing this portion of the bill. Of course we are not opposed to giving 700 MHz spectrum to first responders, but we would suffer considerable loss from the 420 MHz

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auction. ARRL has provided a sample letter available at <http://www.arrl.org/sample-letters>.

Our Division Director also recommends *not* mailing our letters directly to our Representatives. The problem is that it takes between 6 and 8 weeks for letters mailed through the regular US mail to clear security screening off-site before being delivered to Congressional offices. Instead, everyone is asked to mail (ideally) or fax/email their completed and signed letter to ARRL's Washington representative, John Chwat, at Chwat & Co. Doing so will not only bypass the slow-as-molasses screening process, but it also provides Chwat the opportunity to hand-deliver your letter to your Representative and personally engage him/her about H.R. 607's threat to our 70-centimeter band. Chwat's contact information is found at:

<http://www.arrl.org/contacting-chwat-and-co> .

The text of the bill can be found at:

<http://thomas.loc.gov/>. In the box labeled "Legislation in Current Congress," select "Bill Number," enter "H.R. 607" in the box, and click on the "SEARCH" button.

Hams May Wish to Get NIMS Training

Some emergency communications groups along the Wasatch Front are recommending that their members take on-line courses that are part of the National Incident Management System (NIMS).

UARC Club Secretary, Richard Keddington, KD7TDZ, recently spoke with Bob Craven, N7GTE, state RACES director and Utah Section Emergency Coordinator. Bob indicates that there is no RACES or ARES requirement for the training, but that it might be a requirement imposed by some agencies served by local amateur groups. He indicates that the training is free and may be beneficial to amateurs even though there is no general requirement. Time to certify in each course is typically about three hours.

The web site is:

training.fema.gov/IS/NIMS.asp.

Courses recommended for amateurs are:

- IS-100.b Introduction to Incident Management Command System
- IS-200.b ICS for Single Resources and Initial Action Incidents
- IS-700.a National Incident Management System (NIMS), An Introduction
- IS-800.b National Response Framework, An Introduction

A major emergency exercise called "Shakeup," is scheduled for Utah in April of 2012. Bob has been involved in planning of the exercise and is not aware of any NIMS training requirement for participating amateurs.

Dinner for Ray Larsen

Dave Raab, W7DKR, informs us that there will be a dinner honoring Ray Larsen, W7NMK, on Tuesday, April 12, 2011, at the Chuck-A-Rama at 6363 S. State Street. Ray has lived a long life and made many significant contributions to ham radio in Utah. He was the one who picked our name, *The Microvolt*, back in the late 40's. He served on the UARC Board for many years and made many contributions to us while he worked at Standard Supply Company. All are welcome at the dinner.

Net Help Needed

Some additional help is needed for the Sunday night "UARC Information Net." There are several vacant slots each month for operators who can do net control or "Other Club Information" duties. For more information, contact Mike Youngs, KK7VZ, <mailto:kk7vz@arrl.net> or telephone (801) 573-3922.

Women's Class Anniversary

By Linda Reeder, N7HVF

March 7, 2011, is the 10-year anniversary of the largest amateur radio class ever in Utah for women. It was a class for women only and it was taught by women. Diane Wiscombe, KD7BYX, and Carol McWherter, KC7LLW taught the electrical principles and Venus Cederstrom, KB7FXB, taught rules and regulations.

Cindy Neal, KC7UUW, was the one who got this class started. One day her husband, Joel, KC7UBP, came home from work and said he heard a lot of amateur radio operators say they wish they could get their wives in the hobby. He suggested that Cindy start a class for women only, so she ran with it. Cindy made the arrangements to hold the class at the Murray fire station. It was an 8-week class. She was also one of the instructors. Kay Platt, KD7CQH, and Mary Lou Arveseth, KB7ZWN, were also instructors. Elaine Jones, N7BDZ, came to one of the classes as a guest lecturer. She even brought equipment and the different types of coax cable and showed the class how to use them.

There were 30 women in this class. Twenty-seven received their Technician class licenses, and 20 of the calls signs were consecutive, KD7MYE to KD7MYX, and they received their call signs within 24 hours of taking their tests. Eugene McWherter, N7OVT, stayed up most of that night working on the test results. Eugene said this was the largest test session he has ever had and also the highest scores. Many of the women are still active in amateur radio today. Many of them are in the process of renewing their licenses.

LaVon Coombs, KD7MYJ, who is Venus' sister, is getting involved in the LDS Church emergency response team communication program.

This class was a wonderful way to get women into amateur radio.

-73, N7HVF, Linda Reeder

Direction-Finding for Beginners

The weekend of May 14 and 15 is National Fox-Hunting Weekend. John Hardy, K7ALA, has announced a "Foxhunt for Beginners" at 10 A.M. that Saturday. John writes:

"My goal for this event is to provide a way for people to have the opportunity to get into Direction Finding. The starting point for the hunt will be announced at a later date. But please mark your calendar for Saturday May 14th at 10 A.M.

"With this particular foxhunt I'm hoping to keep the 'hunting' to a simple foot hunt. The rules will

be kept simple and we will have a few small prizes to give away for the first to find it and best antenna, etc. I am planning to have additional hunts at a later time which will be more elaborate and will require in-car and on-foot hunting. If you are an experienced hunter I would like to ask that you show up and provide insight and assistance for those who are not yet very experienced. I have no doubt that an experienced hunter could find the bunny in a matter of minutes, so to make this hunt more fair and a bit more exciting for those involved, the actual hunting will be for beginners and fairly inexperienced hunters only (of course

everyone is more than welcome to attend and cheer on your favorite hunter). For those who are interested in foxhunting, you can visit the site of "Homing In," <http://www.homeingin.com/> where you can find ideas related to hunting, antennas and more elaborate equipment.

"This hunt is open to all ages and even non-hams since it has been pointed out that you don't need a license to *receive*.

"I would appreciate an RSVP from those wishing to hunt, and I will continue to remind everyone about the hunt and provide more details as time gets closer, but I wanted to let everyone know so that they could get working on their newest and latest DF'ing gear."

Joe Moell, K0OV, is the U.S. guru on direction-finding. He operates the "Homing-In" website and is also the co-author of the definitive book on the subject, *Transmitter Hunting and Radio Direction-Finding Simplified*, available from the club "book lady" and other ARRL book sources.

The web site has an interesting article to help the beginner get the idea of what direction-finding contests are all about, particularly as practiced in

southern California. Joe calls transmitter hunting "some of the greatest excitement a ham can have." The article is called "Let's Go T-Hunting" and can be found at:

<http://www.homeingin.com/SCalStyle.html> .

In the article and in his book, Joe breaks DF antennas into three classes: Yagis and quads, homing systems (two antennas switched), and Doppler DF units. All can be homebrewed at reasonable prices. Each kind has its advantages and disadvantages. Yagis are the most popular for on-foot hunts, while doppler units are helpful for mobile hunts where the ability to get a bearing while in motion is a plus.

California hunters have become so proficient that they need to be challenged by problems like buried transmitters and ones hundreds of miles from the starting point. Some choose the winner by low mileage, others by shortest time, and some by a combination.

Joe points out that direction-finding is more than a game. Skill aquired on the hunts is useful for finding power line noise, interference from other sources, and intentional jammers.

Member of the Month: Keith Oaks, K7KTO

By Linda Reeder, N7HVF

This month we are featuring Keith Oaks, K7KTO. Keith has been exposed to amateur radio all of his life. He grew up in a very active amateur radio family including his father, Lonnie, K7LO, who has his Extra Class license; his mother, Linda, KD7GBW, who has her Technician; and his brother, Kraig, KC7LYC, who has his Technician license. Keith is very excited to carry on the tradition of an active amateur radio family. Keith said he received the most wonderful Christmas present in the year 2010. Eight of his in-laws have received their Technician licenses and there are a

few more coming soon. They took Steve Whitehead, NV7V's class in Provo and passed with flying colors.

Keith's wife, April, just got her license. Her call sign is K7ATO. They both have vanity calls so they could have call signs with their initials. Keith received his Technician license in 2002. His previous call sign was KD7HHT.

Keith and his wife, April, have two children: a boy nine years old and a girl six years old. They are

very active in the family radio service. Keith is teaching his children how to use these radios. He is also working with them on learning good radio skills such as listening before speaking. It won't be long before his children have their own ham radio licenses.



Keith and his junior ops
(Photo by Keith)

Keith works for Dealer's Sokex as a network engineer. This job really keeps him busy and sometimes it requires traveling. He is very busy with family activities. Keith really enjoys Field Day. He is a member of UARC and has been very

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active for many years helping UARC with Field Day at Payson lakes. He has helped with putting up tents and setting up equipment and taking it down when Field Day was over. Keith said, unfortunately, he wasn't able to attend Field Day last year and he won't be able to attend this year either. Keith's father, Lonnie, K7LO, was Field Day Chairman in June, 2004.

Keith really likes two meters. He says he does more listening than talking. He has a Yeasu ST-53 handheld. Keith said he really wants to upgrade to General, especially, since so many family members are joining the hobby. Keith is also involved with emergency communications. He is a member of the of the Emergency Response Team and participates in their nets. Other hobbies that Keith enjoys are hunting, fishing, and jeeping.

Keith, we wish you the best in all of your endeavors, especially getting that upgrade to General.

License Examination Schedule

Opportunities to test for new or upgraded amateur licenses

Date	Day	City	Contact Person	Phone	Notes
04/16/11	(Wed.)	Provo	Steve Whitehead, NV7V	(801) 465-3983	
03/16/11	(Wed.)	St. George	Gary O. Zabriskie, N7ARE	(435) 674-2678	
03/29/11	(Tues.)	Salt Lake C.	Eugene McWherter, N7OVT	(801) 541-1871	
04/02/11	(Sat.)	Salt Lake C.	Gordon Smith, K7HFV	(801) 582-2438 ¹	

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