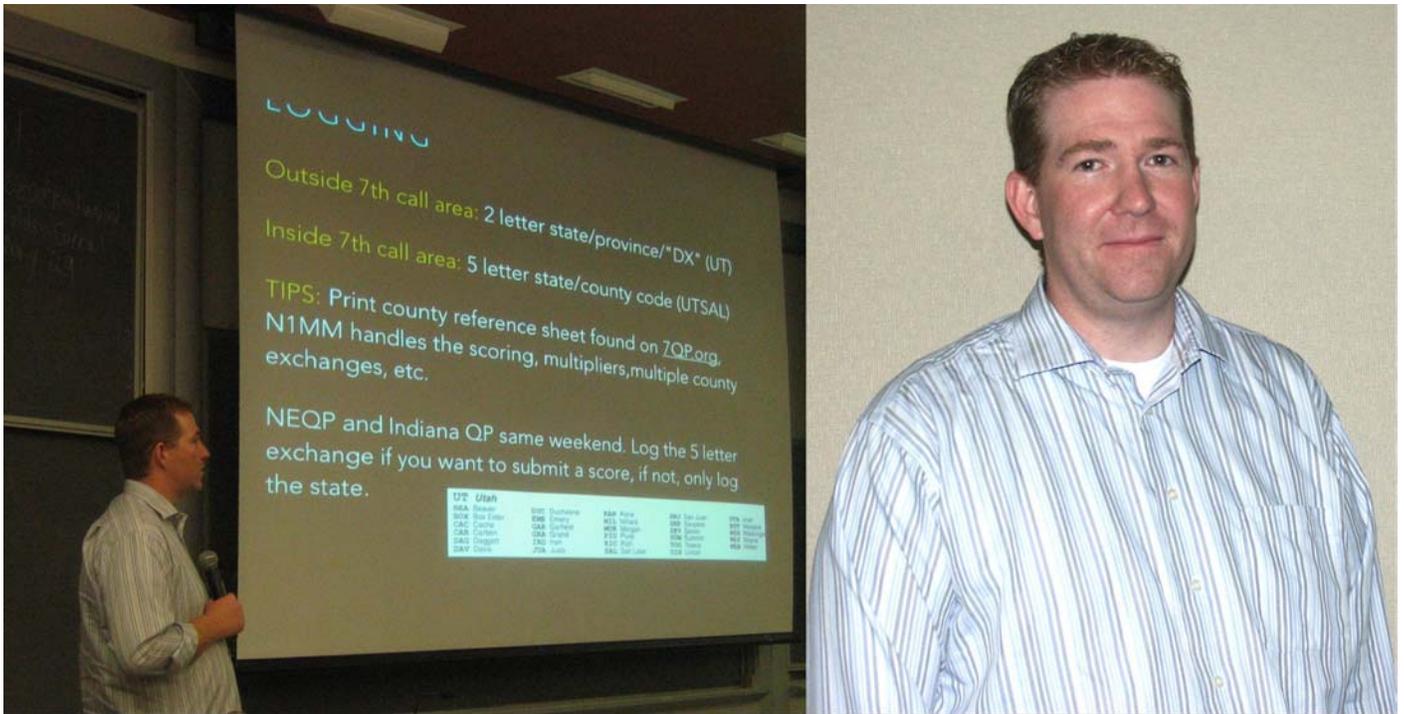


The *Microvolt*

May, 2015



Utah Hamfest

2015

ARRL Rocky Mountain
Division Convention



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 \$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, 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 \$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, 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 2015 Board

President: Clint Turner, KA7OEI	801 566-4497
Executive VP: Rick Asper, AC7RA	801 865-1693
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Committee Chairpersons and Members

“Book Lady”: Brett Sutherland, N7KG	801 298-5399
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://user.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



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May Meeting: HF Antenna Design

Have you ever had to try putting up your HF antenna three or four different ways before you got it to work reasonably? How high does it need to be above ground? Can the ends droop? What's the ideal length for your favorite part of the band? Sometimes we need to spend several afternoons getting out the ladders and rearranging things before we find the optimum configuration. Is there an easier way to get there?

In many cases there is! It is now possible to use computer programs to simulate different antenna designs and configurations and see just how they would work. At our May 14 meeting Mark Richardson, W7HPW, will be presenting a program called "HF Antennas: An Engineering Approach." It will include History, Overview, Physics, Parameters, Antenna Considerations, and Discussion.

The meeting will be on Thursday, May 14, at 7:30 P.M. 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 spring, 2015, meetings will be in room 1230, "the Duke classroom" on the ground floor. See the [map](http://user.xmission.com/~uarc/meetmap.html) at <http://user.xmission.com/~uarc/meetmap.html> for 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 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 May get-together will be at "The Village Inn," 910 E. 400 South in Salt Lake City.

Latest News

Our Cover

Our cover this month is from our April meeting which featured both Bryon Densley, W7RIV, telling us about the 7th Call Area QSO Party

(7QP), and our ARRL Section Manager, Mel Parks, NM7P, on the upcoming ARRL Rocky Mountain Division Hamfest. Thanks to K7RLS for photos.

Eugene McWherter, N7OVT SK

It is with deep regret that we report the passing of Eugene McWherter, N7OVT, a well-known ham and former UARC member. Eugene died of a heart attack on the night of Monday, April 27. He was 65.

Eugene had been the team leader for a series of W5YI test sessions going all the way back to the 1980's when the volunteer examiner program came into existence. His monthly test sessions were the route by which hundreds and perhaps thousands of amateurs obtained FCC licenses and upgrades.

Eugene grew up in Star Valley, Idaho. In Utah he worked as a locksmith for the Granite School District, a job from which he had recently retired.

In addition to his amateur radio activities, he was active in scouting, sometimes putting together stations for the event that combines the two: the "Jamboree on the Air" or JOTA.

Eugene is survived by his wife Carol, KC7LLW. An obituary can be found at:

<http://larkinmortuary.com/obituary/eugene-mcwherter/> .

Field Day Help Needed

We are getting ever closer to the annual Field Day contest and still looking for help. Field Day is the annual operating event drawing more participants than any other such event in the world. Its purpose is to encourage portable and mobile operation and train for some of the skills that might be necessary in an emergency.

Dates for the 2015 event are June 27 and 28, although our setup may begin as early as Thursday, the 25th. UARC plans to set up several portable HF stations near Payson Lakes and operate for the entire 24 hours of the event.

So what does a contest have to do with emergency preparation? When an area's normal communications with the rest of the country are cut off and amateur radio is one of the few remaining pathways, the amateurs are called upon to handle an enormous amount of traffic. There are requests for aid, status reports, and numerous health and welfare messages to be handled. The amateur operators must handle this traffic rapidly and accurately, even when the amateurs may not understand the content of the messages they send and receive. It is urgent that accuracy be maintained even when sleep is long overdue.

Field Day gives practice in these very skills. There is a points premium for working a large number of stations and accurately recording their call signs, entry classes, and ARRL sections. It also can give practice in managing a pileup, something that occurs in emergencies when many stations are trying to get in with health and welfare inquiries, when other, more important traffic must take precedence.

Of course the main factor that draws operators to Field Day is just the fact that it's fun! It's a great opportunity to combine radio with a family campout and enjoy summer in the Utah mountains.

So if we've convinced you to become this year's Field Day Chairperson, contact one of the officers. Just plain helpers are needed too.

Division Convention in Utah this August

Rooms and campsites are going quickly for the ARRL Rocky Mountain Division Convention to be held this year on the first weekend in August near Bryce Canyon.

For more information visit <http://utahhamfest.com>.

FCC Proposes Two New Amateur Bands

On April 27, the FCC released a document (FC-50) addressing changes in the international frequency allocation table and petitions by ARRL and N0ECN.

The 2007 World Radio Conference (WRC-07) changed the international frequency allocation table to assign a “sliver” segment, 135.7 to 137.8 kHz, to the amateur service on a secondary basis. In 2009 James Whedbee, N0ECN, filed a petition asking that the segment be made available to U.S. hams. A similar proposal by ARRL in 2002 was denied based on worries that amateur operation on those frequencies could interfere with “power line carrier” (PLC) signals used by power companies for remote control and telemetry. The FCC is now, despite strong opposition from the electric power industry, reversing itself and changing the U.S. table to reflect the international change. It proposes to limit amateur power levels in this band to one watt EIRP, to avoid interference to PLC systems.

One watt may not sound like much power, but given that the wavelength at 135.7 kHz is about 1.4 *miles*, radiating a watt from a backyard-sized antenna may prove quite challenging, even with high RF power delivered to the antenna.

The proposal also suggests that amateurs should be allowed operation only from fixed locations at some distance from PLC operations.

The Commission stopped short of actually adding text to the amateur rules (Part 97) to allow operation in “the 2200-meter band” but is seeking comments on what restrictions should be present in the final rules.

Also addressed in FC-50 is a proposal the amateurs be given on a secondary basis an allocation at 472-479 kHz (the “630-meter band”) also to bring the U.S. rules into harmony with the

international table. A proposed limit for radiated power would be 5 Watts EIRP.

This band is also used for PLC purposes, but the Commission notes that amateurs have been operating in this part of the spectrum under temporary experimental authorizations for several years, and no interference has been reported.

In support of its decision to allow sharing of both these bands between PLC and Amateur Service operation, the Commission writes:

Moreover PLC systems and the expected amateur use of these bands have characteristics which make coexistence possible. PLC systems are limited to use on transmission lines and, consequently, are not present in most residential neighborhoods where amateur licensees live.

The amateur service is expected to use the band mainly for experimental purposes and not for routine and widespread communications activities common in other bands. These attributes give us confidence that, along with appropriate technical rules, amateur stations can harmoniously operate on the same frequency bands as PLC systems.

The FCC now seems convinced that sharing of both bands with PLC is practical, but is soliciting comments on exactly what the rules should be to ensure that sharing will not result in harmful interference.

See:

<https://www.fcc.gov/document/implementation-world-radiocommunication-conferences-wrc-07-wrc-12> for the full text of the proceeding.

License Examination Schedule

Opportunities to test for new or upgraded amateur licenses

Date	Day	City	Contact Person	Phone
05/16/15	(Sat.)	Farmington	Gary L. Davis, KE7MQF	(801) 298-3127
05/20/15	(Wed.)	Provo	Steve Whitehead, NV7V	(801) 465-3983
05/20/15	(Wed.)	St. George ²	Gary O. Zabriskie, N7ARE	N/A
05/26/15	(Tue.)	Salt Lake City ³	Eugene McWherter, N7OVT	(801) 541-1871
06/03/15	(Wed.)	Ogden	Rick Morrison, W7RIK	(801) 791-9364
06/04/15	(Thu.)	Logan	Richard D. Elwood, KE7GYD	(435) 753-4360
06/06/15	(Sat.)	Salt Lake City ^{1,4}	Gordon Smith, K7HFV	(801) 582-2438
06/13/15	(Sat.)	Hurricane ²	Gary O. Zabriskie, N7ARE	N/A
06/17/15	(Wed.)	Provo	Steve Whitehead, NV7V	(801) 465-3983
06/16/15	(Wed.)	St. George ²	Gary O. Zabriskie, N7ARE	N/A
06/30/15	(Wed.)	Salt Lake City ³	Eugene McWherter, N7OVT	(801) 541-1871

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

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

³New location: Senior Center at the Columbus Center, 2530 S. 500 East

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

Check <http://user.xmission.com/~uarc/testinfo.html> for further exam information.

Possible Geosynchronous Ham Satellite

From *The ARRL Letter*

There is big news on the Amateur Radio satellite front. AMSAT-NA has announced that, if all goes according to plan, an Amateur Radio payload will go into space on a geosynchronous satellite that's planned for launch in 2017. As opposed to the more typical low-Earth-orbit, a geosynchronous orbit would permit an earthbound ham at a given point within its footprint to access the satellite at approximately the same time each day. According to AMSAT Vice President-Operations Drew Glasbrenner, KO4MA, the satellite's potential footprint would extend over the US from the Mid-Pacific to Africa. AMSAT said it's accepted the opportunity to be a "hosted payload" on a spacecraft that Millennium Space Systems (MSS) of El Segundo, California, is under contract to design, launch, and operate for the US

government. Past AMSAT Director and former Vice President-Engineering Bob McGwier, N4HY, said the Amateur Radio payload must be delivered for testing and integration by the spring of 2016.

"It is an ambitious schedule, and all involved will have to gain and maintain a serious level of commitment," said McGwier, the Director of Research at Virginia Tech's Hume Center for National Security and Technology. The AMSAT announcement on April 25 followed an April 13 meeting at MSS to discuss the project. McGwier said the potential rideshare would be an opportunity to go forward with the AMSAT-Eagle payload, which had evolved nearly 10 years ago into a microwave payload to be flown in a

geosynchronous orbit, although it never got a flight opportunity. Had it flown, it would have provided digital communications to small terminals on the ground and a linear bent-pipe transponder.

According to AMSAT, the transponder is expected to support a wide range of voice, digital, and experimental advanced communications technologies. A decision is expected soon specifying the microwave uplink and downlink bands. The satellite would be an [Aquila M8](#) Series spacecraft.

If the Qatari E'hailsat project designed to serve IARU Region 1 is successful, two geosynchronous

satellites carrying Amateur Radio payloads could be in space at the same time.

Hosting the meeting for MSS were MSS Founder and Chairman Stan Dubyn, MSS President Vince Deno; MSS Vice President for Product Development Jeff Ward, K8KA, and MSS Spacecraft Mission Project Manager Ryan Lawrence. Attending by telephone were Hume Center Associate Research Director Jonathan Black — an associate professor of Aerospace and Ocean Engineering, and RINCON Research Corp Founder Michael Parker, KT7D.

— *Thanks to AMSAT News Service via Bob McGwier, N4HY, and others*

Member of the Month

Cathy Grandgent, KA1SQW

By Linda Reeder, N7HVF

This month we are featuring Cathy Grandgent, KA1SQW. Cathy received her first amateur radio license, Tech-plus, in 1989. She was living in Massachusetts at the time. Cathy was born and raised in Hartford, Connecticut. It was her father, Donald Ballou, N4TRS, who got her interested in amateur radio. Cathy was impressed with her father's expertise in emergency communications. This is what Cathy wanted to do.

She is very active in emergency communications. She checks into the ERC (Emergency Radio Communications) net every Tuesday night at 9 P.M. Cathy is also involved with the Crossroads emergency group. They have a net every Thursday at 9 P.M. Cathy participates in the Utah Shakeout and gives her report to the Emergency Radio Communications. Cathy has been participating with the Utah Shakeout every year since it was started on April 17, 2012.

She also participates in emergency drills. Cathy is looking forward to attending the Preppercon on April 24th and 25th at The SouthTown Expo. The

Preppercon is described as “a cross between ComicCon and a disaster preparedness expo.” There will be emergency drills and classes and workshops to attend. Cathy says they will also be talking about solar power and she is really interested in that. Cathy is a member of UARC and really enjoyed the meeting UARC had in March on solar power.

Cathy is CERT trained and wants to learn all she can about emergency communications. Cathy wants to be prepared for when and if that emergency disaster day should come. She practices emergency communications with her dad on the radio. She really likes the IRLP mode. Cathy says she has made many friends through amateur radio.

Cathy helped in the Salt Lake Marathon on April 18 where she operated one of the checkpoint stations where the runners check in.

In August, 2013, Cathy upgraded to General. She studied on her own and passed the test in Provo

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during BYU Education Week. She passed it on the first try. I think it is wonderful that amateur radio is a part of BYU education week.

Cathy has worked in several different fields. She was a bus driver for awhile. She worked in a clothing lab in the clothing industry. She went to college for three years and worked for an upholstery shop working on furniture. She enjoys crocheting and sewing. Cathy says she used to do a lot of tie quilting. She is also a gardener and a member of a garden Club. She does the square foot gardening where you build your own boxes.

Cathy has two grown children, one boy and one girl. She also has two grandchildren, one boy and one girl. She does a lot of baby sitting.

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Cathy, congratulations on your upgrade to General and we wish you all of the best in all of your endeavors.



Kathy Grandgent, KA1SQW
(Thanks to K7RLS for photo.)