

The *Microvolt*

February, 2012



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, 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 2012 Board

President: Clint Turner, KA7OEI	801 566-4497
Executive VP: Andrew Madsen, AC7CF	801 419-8378
Vice Pres: Brett Sutherland, N7KG	801 298-5399
Secretary: Dick Keddington, KD7TDZ	801 274-9638
Treasurer: Chuck Johnson, WA7JOS	801 268-0153
<i>Microvolt</i> Editor: Gordon Smith, K7HFV	801 582-2438
Asst. <i>Microvolt</i> Editor: Mary Alexander, KF7QVL	801 347-3220
Program Chairperson: Morris Farmer, AD7SR	801 278-4966
Program Chairperson: Gary Wong, AB1IP	801 582-0906
Imm. Past Pres: Linda Reeder, N7HVF	801 364-7006

Committee Chairpersons and Members

"Book Lady": Brett Sutherland, N7KG	801 298-5399
Historian: Ron Speirs, K7RLS	801 904-3587
Field Day Chair: Brett Sutherland, N7KG	801 298-5399
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

Contents

Prologue.....	2
February Meeting: Amateur Microwave	3
Latest News.....	3
UARC Annual Financial Statement — 2011	5
License Examination Schedule.....	5
Kit-Building in the 21 st Century	6
Words from the Prez	7
Member of the Month	7

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:
<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 55, Issue 2, February 2012

February Meeting: Amateur Microwave

Unknown to many, there is a small, but very enthusiastic group of ham microwave operators. Did you know that there is a weekly 10 GHz net? There are a number of microwave beacons on the air in the area. Come to the February UARC meeting, Thursday, February 9, to learn a little about this rather specialized part of the hobby. Come hear about the activities that are currently going on in the area and touch, not only microwave equipment, but also the operators. (Some restrictions may apply.)

Ron Jones, K7RJ, together with other members of the Wasatch Front [amateur microwave community](#), will be telling us about the spectrum beyond where your Kenwood, Yaesu, or Icom transceiver will go and what is happening up there. We will learn what it takes to get on the air, and some of the special considerations that are unique to these extremely high frequencies.

UARC meetings are held on the second Thursday of each month at 7:30 P.M. During winter semester, they are in room 1230 (the “Duke” classroom) of the Warnock Engineering Building at the University of Utah.

See the map at 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 February get-together will be at “The Sizzler,” 371 E. 400 South in Salt Lake City.

Latest News

Our Cover

Our cover this month, in line with the upcoming meeting on Microwave, shows Ron Jones, K7RJ,

with his 10 GHz gear during a 2005 contest. No, he’s not aiming down into a lake; rather, he is up on the Traverse Range looking down into the Salt Lake Valley during a January fog.

VHF Society Swap Meet

Utah's largest swap-meet of the year is scheduled for Saturday, February 25, 2012. The Utah VHF Society has announced its annual business meeting and swap meet to be held that day starting at 8 A.M. The event will take place in the same location as was the case during the last several years, the Zion Building in the Utah State Fairpark, approximately 200 N. 1000 West in Salt Lake City. For more information about directions, cost, etc. see http://utahvhfs.org/fairpark_2012.html.

The Utah VHF Society is dedicated to encouraging a robust network of repeaters over the state. It offers financial support to repeater operators once they have proved that their systems are open and fill a need in their areas. Dues are used to help keep repeaters on the air throughout the state. The Society also handles frequency coordination for Utah and maintains the [list of all Utah repeaters](#) on the web.

VHF Society members are reminded that memberships run for the calendar year, so many were up for renewal on January 1. Members will be admitted to the swap meet at no charge; others will be required to pay an entrance fee. It will be possible to join or renew at the swap meet, but there are advantages to paying dues in advance. You will get your name in the annual member directory, which will be distributed at the swap meet, and you will be able to get into the swap meet quickly. Early dues payment is also a help to the Treasurer, Danny Fullerton, KC7RUF, who is otherwise faced with a mountain of paperwork right after the annual meeting.

Dues are \$12 per year. They may be sent to:

Utah VHF Society
P.O. Box 482
Bountiful, Utah 84011-0482

For those willing to pay for at least two years at once, it is also possible to join or renew via PayPal. For more information see:

utahvhfs.org/uvhfsoff.html#dues_info.

Upcoming Events.

If you're getting your summer planned out already, you might want to be aware of some of the amateur radio-related events coming up later this year:

Field Day, June 23-24: The annual nationwide Field Day contest, the largest operating event in amateur radio, will take place on Saturday and Sunday, June 23 and 24. (It is always the fourth full weekend in June.) It is expected that UARC will enter, as usual, from its traditional site near Payson Lakes. Brett Sutherland, N7KG, has volunteered to be our Field Day Chairman this year. This is a great opportunity to combine ham radio with a campout.

Steak-Fry, July 14: UARC's annual steak-fry, the major social event of the year, will take place in Big Cottonwood Canyon on the afternoon of Saturday, July 14. It provides a nice break from the summer heat.

Utah Hamfest and Rocky Mountain Division Convention, July 27-29: This year the ARRL Rocky Mountain Division Convention will be in Utah. In addition to Utah, the Rocky Mountain Division includes the states of Colorado, New Mexico, and Wyoming. The event will take place at Ruby's Inn, just outside Bryce Canyon National Park. It will include speakers, workshops, forums, exams, swap tables, and manufacturers' displays.

For more information including events, cost, and lodging information, see:

<http://www.utahhamfest.org/> .

UARC Annual Financial Statement — 2011

Submitted by Chuck Johnson, WA7JOS, Treasurer

Category/Description	Amount
Income	
ARRL Dues	995.00
Book Sales	5,342.30
Donation	47.00
Dues	5,391.00
Int Inc.	234.38
Steak-Fry Income	760.00
Total Income	12,769.68

Expenses	
Administrative	127.49
ARRL Memberships	967.00
Bank Charge	14.00
Books	3,946.35
Capital Equipment	276.50
Field Day	1,162.99
Ham Hotline	40.00
Insurance	200.00
Meeting Expense	179.47
Microvolt	2512.60
Repeater	336.60
Sales Tax	346.33
Selling Fees	112.89
Steak-Fry	738.44
Total Expenses	10,960.66
Overall Total	1,809.02

License Examination Schedule

Opportunities to test for new or upgraded amateur licenses

Date	Day	City	Contact Person	Phone
02/15/12	(Wed.)	Salt Lake C. ⁴	Rick Donkin, KA7MMM	(801) 594-2167
02/15/12	(Wed.)	Provo	Steve Whitehead, NV7V	(801) 465-3983
02/15/12	(Wed.)	St. George ²	Gary O. Zabriskie, N7ARE	(435) 674-2678
02/28/12	(Tue.)	Salt Lake C.	Eugene McWherter, N7OVT	(801) 541-1871
03/07/12	(Wed.)	Clearfield	Mike Youngs, KK7VZ	(801) 573-3922
03/21/12	(Wed.)	Provo	Steve Whitehead, NV7V	(801) 465-3983
03/21/12	(Wed.)	St. George ²	Gary O. Zabriskie, N7ARE	(435) 674-2678
03/27/12	(Tues.)	Salt Lake C.	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>

³More information at <http://utaharc.org/Exams>.

⁴Morning session at L3 offices

Kit-Building in the 21st Century

This blog post was contributed by Dan Romanchik, KB6NU, an amateur radio operator for 40 years and an experienced Electrical Engineer.

A couple of years ago, a group of local hams were talking on the club repeater, and the talk got around to building stuff. One of the guys said, "You can't really build anything anymore." I almost fell out of my chair. That's simply not true. There are still many companies out there selling kits that are not only fun to build, but are useful additions to the ham shack. There are even reports that Heathkit plans to start selling kits again.

Here are a couple of sources:

Elecraft (www.elecraft.com). In my mind, Elecraft has become the premiere ham radio kit company, if not the premiere ham radio company, period. The new K3, for example, outperforms just about anything on the market by many accounts. Personally, I have built the KX-1, which is a real blast to operate from a park bench or to take on vacation. I also have and use the W1 wattmeter.

TenTec (www.tentec.com/categories/Kits). While perhaps known more for their ready-made rigs, they also sell a line of single-band transceivers and receiver kits.

QRP Kits (www.qrpkits.com). QRPKits.com sells kits that cater to the QRP crowd, that is hams who like to operate low power. They offer many different radios and accessories.

Below are some other companies whose kits have good reputations, but with which I have no personal experience:

Small Wonder Labs
(www.smallwonderlabs.com)

Wilderness Radio
(www.fix.net/~jparker/wild.html)

Milestone Technologies
(www.mtechnologies.com)

Ham Gadgets (www.hamgadgets.com)

Almost All Digital Electronics
(www.aade.com/index.html)

FAR Circuits (www.farcircuits.net)

Jackson Harbor (www.wb9kzy.com/ham.htm)

QRPme (www.qrpme.com)

QRP clubs are also a good source of cool kits. QRP operators are natural builders and tinkerers, and many of their designs are quite unique. They also like sharing what they've done with other hams. Check out the offering of the American QRP Club (www.amqrp.org), the Four State QRP Club (www.wa0itp.com/4sqrpkindex.html), and the Arizona SQRPsions (<http://www.azsqrpsions.com>).

Ready to rock and roll? Here are a couple web sites that you might want to check out before you dive in:

Electronic Construction from A to Z
(www.mtechnologies.com/building/atoz.htm).

This site includes a page that lists all the tools you'll need to become a successful kit builder.

Crystal Sets to Sideband: A Guide to Building an Amateur Radio Station
(www.qsl.net/k3pd/book.html). This site not only discusses kit building, but also radio theory.

The Joy of Kit Building by N6HI
(<http://members.cox.net/jrehak/wm-2kit.htm>).

I hope that I've whetted your appetite for building a kit or two. They're a lot of fun to build, and you really do get a rush from operating a radio or using a piece of test equipment that you built yourself.

If you know of other kit sources, or if you've built a kit lately, I'd like to hear about it. E-mail me at <mailto:cwgeek@kb6nu.com>.

Words from the Prez

By Clint Turner, KA7OEI

For the most part, most hams don't really pay much attention to the microwave bands – after all, it's pretty rare to see a radio that goes there! What does one use these bands for, then?

These microwave frequencies show up in several places other than your oven – which just happens to operate at the very top of our 13-cm ham band. All modern wireless phones use the microwave frequencies not too far below this, typically in the 1.8 GHz range for the cordless around your house and a bit above and below that for your cell phone. Most of the 13-cm ham band is actually shared with “2.4 gig” wireless devices such as those used to network computers in home and business as is the 6cm ham band which we also share with the “5.6 GHz” data devices.

Around Utah, much of the recent microwave ham activity has been on 10 GHz, well above where most consumer devices operate and there, we have 500 MHz of space to play around in: That's more spectrum than all of the frequencies of the 70cm ham band and everything below it — AM FM

broadcasting, aircraft, all HF bands, 6 and 2 meters and the 220 band combined!

To a larger degree than operating on lower bands, getting on these frequencies requires that we put together our own stations — either as modules we can get pre-built or from components that we can readily get. Exploring “new” things means that we are often conferring with other like-minded hams to ask for advice, solve problems, and just to make sure that the gear works as expected. If we want to talk using this gear we often have to arrange beforehand so that there actually is someone at the other end to talk to at a location that can be reached.

For the vast majority of those that get on these bands, they are venturing into areas unknown and have to experiment and get with others and learn how to get the station on the air — and once they've done that, work a bit harder yet to get out in the field and use it. If that's not a lot of what being a ham operator is about, I don't know what is!

Member of the Month

Carol Farmer, KE7JWX

By Linda Reeder, N7HVF

This month we are featuring Carol Farmer, KE7JWX. She has been in amateur radio for about two years now. She received her Technician license in 2010. She took a class that her husband, Morris, AD7SR, was teaching in May, 2010, on Saturdays. The class lasted for about six weeks.

She loves to support her husband in amateur radio. She provides refreshments for the classes Morris teaches.

Carol and Morris have one son, John, who has his

Technician license. John's call sign is KF7CLN. Carol has three grandchildren, a five year old daughter, a fourteen year old daughter, and a 22-year-old son.

Carol and Morris have their own business, a small convenience store at the Friendship Manor. It is a mom and pop grocery store called "Farmer Jones Market." Carol and Morris have been in this business for seven years.

What Carol likes best about amateur radio is communication with people around the world and the ability for emergency communications. Carol says she can't believe that people think amateur radio is obsolete. This theory has been proven wrong over and over again. It is amateur radio that comes to the rescue whenever there is an emergency. Amateur radio has open line communications when all other communication services fail. Cell phones are the first to go in an emergency. ARES is an emergency organization that is always there when emergencies happen. Amateur radio was there to help during the Katrina disaster. Amateur radio was there to assist victims of the Tahiti earthquake. The Davis County amateur emergency radio group was there in December, 2011 during the bad wind storm. There is the emergency response team which is the LDS church's emergency organization.

The Davis County Amateur Radio group was there in December, 2011 during the bad wind storm.

There is the emergency response team which is the LDS church's emergency organization.

Carol says that she and her husband, Morris, will be participating in the "Shake Rattle and Roll" exercise coming up April 17, 2012. These emergency organizations spend hours training

The Microvolt (USPS 075-430) is published monthly except August for \$17.00 per year or \$1.50 per issue by the Utah Amateur Radio Club, 699 E. South Temple STE 100, Salt Lake City, UT 84102-1282. Periodicals Postage Paid at Salt Lake City, Utah. POSTMASTER: Send Address changes to *The Microvolt*, c/o Dick Keddington, 1783 Woodside Drive, Holladay, UT 84124-1620.

amateur radio operators so they will be prepared when the event happens.

Carol is a member of UARC. She is a member of the Foreign Relations Committee of the United Nations Association. She is the past President for the Salt Lake branch of the AAUW which stands for "American Association of University Women." She is also involved with the United States Coast Guard Auxiliary Decision 7.

Carol, we wish you the best in all of your endeavors



(Photo of Carol thanks to K7RLS)