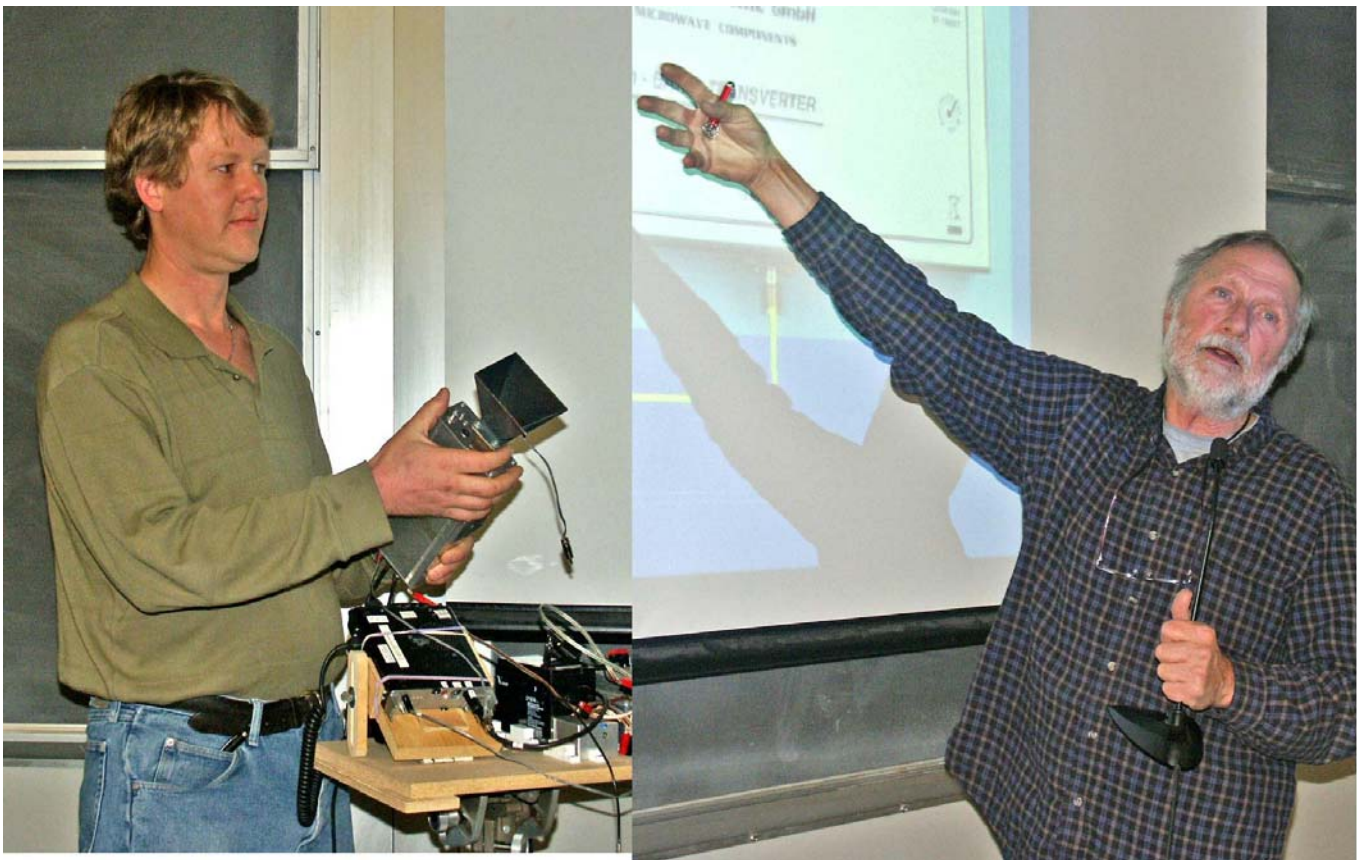


The *Microvolt*

March, 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, N7HFV	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
March Meeting: Tooele County EOC.....	3
Latest News.....	3
From the Clipboard of the Editor.....	5
License Examination Schedule.....	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 3, March 2012

March Meeting: Tooele County EOC

How do you design an Emergency Operating Center (EOC) with the ability to communicate anywhere that might be needed in an emergency, and at the same time guarantee that it will still *work* in an emergency? Dave Williams, WA7GIE, will be telling us, at the next meeting of the Utah Amateur Radio Club, how Tooele County designed their EOC to meet these objectives.

The meeting will be held on Thursday, March 8. Dave will be telling us about the design objectives and how they were met along with how amateur radio was included. The installation includes a nice amateur station complete with an Icom IC-7800 and a monster SteppIR antenna. Chuck Dewitt, W7DTO, and Jim Mallon, WC7X, will be assisting Dave.

UARC meetings are held on the second Thursday of each month at 7:30 P.M. During spring 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 location varies. The March get-together will be at “Crown Burger,” 377 E. 200 South in Salt Lake City.

Latest News

Our Cover

Our cover this month shows some scenes from the February program on Microwave. On the left is

UARC President, Clint, KA7OEI, showing his homebrew 10 GHz transceiver, and on the right Ron Jones, K7RJ, is describing the components

necessary to get on the air. Thanks to Ron Speirs, K7RLS, club historian, for the photos.

Field Day Coming

The end of June may seem a long ways away, but it is already time to start planning for UARC's 2012 entry in the national Field Day contest. This year's event will take place on June 23 and 24, and Field Day is one of UARC's most popular events of the year.

Brett Sutherland, N7KG, has volunteered to be this year's Field Day Chairperson, but he could use a lot of help. It would be great if there were volunteers to handle various aspects of the event such as rigs, antennas, computers, dinner, tents, generators, cables, and operators. He would like to form a committee and start holding meetings soon.

If you would like to be on the committee, get in touch with Brett. His contact information is as follows:

Home phone: (801) 298-5344

Work phone: (801) 994-9944 Ext 158

E-mail: <mailto:n7kg@arrl.net>

Rocky Mountain Division Net

UARC is affiliated with the American Radio Relay League (ARRL). We are part of the Rocky Mountain Division of ARRL along with Colorado, New Mexico, and Wyoming. Our Division Director, Brian Milesosky, N5ZGT, organized a monthly net several years ago as a place where members could hear what is going on in the division and share their concerns and desires with Division leadership.

More recently, the net moved from HF to an IRLP reflector (a system to link repeaters via Internet). One of the UARC members pointed out that because UARC owns an IRLP repeater (146.76), it might be nice to use it to join the net. We tried that on Wednesday, February 8, and had good reactions. Close to half the check-ins were from

Utah, either on our '76 repeater, or one in Logan. We got to hear what our Director sounds like and express our opinions on the advent of *QST* magazine being available each month in an electronic version starting next June.

We will try to continue the practice in the future. The nets are held on the second Wednesday of each month at 7:30 P.M, so the next one will be Wednesday, March 14. Join us!

Division Convention/Utah Hamfest

This year is Utah's turn to host the four-state Rocky Mountain Division Convention. The event will be held July 27-29 at Ruby's Inn near the entrance to Bryce Canyon National Park.

The event will feature seminars, contests, dealers' displays, swap tables, license exams, and awards. Contests will include transmitter hunts, code copying contest, QLF contest, and the ever-popular transformer toss.

Lodging and campgrounds are available but making reservations in advance is wise.

There is a YouTube promo available at <http://www.youtube.com/watch?v=RMIvRrahqv0>

The official hamfest web site is: <http://www.utahhamfest.org/> .

Sixty-Meter Document Available

Changes to the rules for the 5 MHz band take effect on March 5. CW will now be permitted, effective radiated power goes up to 100 watts, and there is a change in the frequency of one of the allowed channels. ARRL has issued a document of "Recommended Practices" that will help us operate most effectively under the new rules. Download it at:

http://www.arrl.org/files/file/Regulatory/Recommended_Practices_for_60_Meters_-_Version_6_4.pdf

License Examination Schedule

Opportunities to test for new or upgraded amateur licenses

Date	Day	City	Contact Person	Phone
03/07/12	(Wed.)	Clearfield	Mike Youngs, KK7VZ	(801) 573-3922
03/17/12	(Sat.)	North Salt Lake	Gary Davis, KE7MQF	(801) 865-0299
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	(Tue.)	Salt Lake C.	Eugene McWherter, N7OVT	(801) 541-1871
04/07/12	(Sat.)	Salt Lake C. ^{1,2}	Gordon Smith, K7HFV	(801) 582-2438
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>

From the Clipboard of the Editor

(The rumor is that the editor has a desk; he just can find it.)

I heard a ham on the air recently asking to what frequency he should go in case of a major emergency. The answers he got were generally along the lines that there really isn't a one-frequency-fits-all answer. It wouldn't help much, for example, to tune to a frequency that Ogden ARES uses if you're in Provo. The Utah VHF Society's web site carries a list of two-meter simplex frequencies and which emergency groups are known to use which ones. This can be a starting place to get the right answer.

This question brings to mind the fact that in a real emergency there are many situations that might arise that would require one to go to a frequency or a combination of frequency, offset, and tone that one had never used or programmed before. Some of these situations might include:

- A commonly used repeater is off the air.
- The input and/or output of an out-of-service repeater is being used for simplex.

- Two nets that normally use the same frequency at different times need to operate simultaneously. One must move.
- A temporary mobile cross-band repeater has been set up.
- A temporary repeater has been set up with a non-standard offset.
- You need to listen for folks trying to use an out-of-service repeater by transmitting on its input

We should all ask ourselves if we can adapt quickly to these situations even if the manuals for our transceivers aren't immediately available. If not, maybe we should spend some time getting acquainted with our radios, and even practice some helpful maneuvers on a regular basis. There are several aspects of our transceivers we should be familiar with.

VFO: What if someone suddenly tells you "Go to 145.75 simplex" and you've never heard of that

frequency, let alone programmed it into your radio? What do you do? Boot up the computer, find the file with your current setup, edit it to include the new frequency, locate the interface cable and then upload the new configuration? That's not likely the fastest way to get there, especially if you're dealing with a life-threatening situation. The right answer would be "enter it in your VFO."

"VFO" stands for variable frequency oscillator, the device that first let amateurs set their operating frequencies by just turning a knob. It's not likely any modern VHF transceivers have real VFOs, but they all have a "VFO mode" where you can turn a dial or enter digits to get directly to a frequency of choice. If that whole concept is alien to you it would be good to practice getting onto random frequencies quickly.

Offset: Repeaters have two frequencies: an input frequency and an output frequency. To use one, you must transmit on the input frequency and listen on the output frequency. On virtually all recent VHF transceivers, instead of specifying the two frequencies explicitly, you set an output frequency and an offset. So, instead of specifying 146.34 input and 146.94 output you specify the 146.94 output frequency and an *offset* of -600 kHz. ($146.94 \text{ MHz} - 600 \text{ kHz} = 146.34 \text{ MHz}$.)

The magnitude of the offset (600 kHz) and the direction (positive, negative, or none) are usually set separately. In the U.S. the offsets are sufficiently standardized that many radios set the proper offset automatically just by knowing the output frequency.

Now let's suppose that the 146.94 repeater is down, but your emergency group wants to use 146.94 as a simplex frequency. If you have 146.94 programmed, it probably has a negative offset. But to use the frequency simplex, you need to remove the offset (i.e. set the direction to neither "+" nor "-"). On many radios you can just switch to the channel programmed for the 146.94 repeater and

then override the memorized offset with a keystroke or two. Do some experimenting and see if that works on your radio. If so, remember that if you switch to a different memory channel and then back again, you will have to override the offset again.

If you will be switching to different memory channels on a regular basis, it might be easier to just set up the VFO with the no-offset '94 frequency.

PL or CTCSS: If you need to use an unusual repeater, you may have to program a sub-audible tone. Most hams call these "PL" tones (for "Private Line"). Your manual, however, will likely avoid that Motorola trademark and call it by the generic name: "Continuous Tone-Coded Squelch System" or CTCSS. Do you know how to set a tone of a particular frequency on short notice? That could be valuable knowledge.

Some radios have both tone encode and decode (or transmit and receive). Tone decode is never necessary to communicate. Avoid it unless you have a special need and have thought it through carefully. It will disable your receiver when the tone is not present and may cause you to think a channel is clear when, in fact, it is busy. In the worst case you will be interfering with important communications and unable to hear the operators who are trying to tell you about it.

Reverse: Most transceivers have a way to reverse the transmit and receive frequencies when an offset is in service. (Unfortunately, Icom has left this valuable function out on some of its recent models.) This is most often used, briefly, to find out how well one can hear, directly, the station transmitting, rather than via the repeater. It has another use in cases where the repeater is down. Let's suppose, again, that 146.94 is off the air and we are using its output frequency for simplex operation. It is likely that there are operators trying to use the repeater, not realizing that it is down. They are hearing other stations on the

output frequency, but not being heard when they transmit on the input frequency. By simply going to the reverse mode, you can hear these stations whenever one comes on and explain the situation on the output frequency.

See how to use your reverse function. It's useful.

Modern VHF transceivers have so many functions that it is easy to throw up your hands and say "Someone program this thing for me, and I'll only touch the channel selector from then on." But learning how to set up a channel manually can pay big dividends by giving you frequency agility at the time you might need it most.

Member of the Month

Chuck DeWitt, W7DTO

(Photo on page 8)

By Linda Reeder, N7HVF

This month we are featuring Chuck DeWitt, W7DTO. Chuck has been in amateur radio since the late 1950s. He has a General license.

It is very interesting how Chuck got into amateur radio. Chuck and his cousin went to the library and checked out a book on how to build a Morse Code transmitter using a Model T Ford coil. After they finished building the transmitter they got on the air with it, sending each other messages. That is when they got into trouble. It was illegal to use a spark transmitter. Chuck received a pink ticket from the FCC. He would be fined four thousand dollars and/or five years in prison. Chuck had no idea how the FCC got wind of this and he didn't even know that amateur radio existed.

Fortunately, Chuck's father was an attorney and Chuck's father sent the FCC engineer a letter wanting to know what this was all about. The FCC engineer sent Chuck a manual on how to become a amateur radio operator. The FCC engineer said he would let him off the hook if he would get an amateur radio license. Not only did Chuck get his Novice license, he got his General as well. At the time this was going on Chuck lived in Jacksonville Illinois. Chuck had to go to St. Louis, Missouri, and take his amateur radio test at the FCC Office.

Chuck's first call sign was K9CSZ. Chuck changed his call sign to W7DTO when he moved to Utah in 1964.

Chuck worked for 43 years at Dugway Proving Ground where he was an electronic technician/engineer. He was in the chief operation division. He retired in 2003. Chuck and his wife, Dawn, have three children: two boys and one girl. Chuck's first wife died of cancer.

Now that Chuck is retired he does lots of volunteer work with his wife, Dawn. They do volunteer work for Tooele County Emergency Management. They also do volunteer work for the Salt Lake City Arts. Chuck and Morris Farmer, AD7SR, have been friends for many years. Both of their wives are member of the American Association of University Women AAUW.

Chuck enjoys all facets of amateur radio. He loves building equipment. He enjoys satellite and digital communications, as well as single sideband and FM. Chuck is a member of UARC, Utah DX Association, and the Tooele County Amateur Radio Club.

Chuck, we wish you the best in all of your endeavors.

The Microvolt March 2012



(Photo of Chuck DeWitt thanks to K7RLS)

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.



The annual Utah VHF Society Swap Meet, February 25, appeared to have a record turnout. Many claimed to be able to identify most of the items for sale.