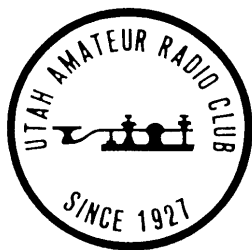




At the February meeting, Mel, NM7P, discussed what the ARRL is doing and what is happening with the FCC eliminating Morse code. Brett, N7KG, talked about the Official Observer duties and etiquette on the air.

## March Meeting Topic: Circuit Simulation



Volume 50, Issue 3, March 2007

Periodicals Postage

# The Microvolt

**DATED MATERIAL – PLEASE DO NOT DELAY**

Please Send Dues to:  
UARC  
c/o Dick Keddington  
1933 Woodside Drive  
Holladay, UT 84124-1632

**SEND TO**

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## Prologue

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 first Thursday of the month at 7:30 PM in the University of Utah Engineering and Mines Classroom (EMCB) building, Room 103.

**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, 1933 Woodside Drive, Holladay, UT 84124-1632. ARRL membership renewals should specify ARRL Club #1602.

**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-) has autopatch facilities for Provo which are currently disabled due to abuse and for Salt Lake which is in need of reworking to be compatible with IRLP

**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.

**Publication:** *The Microvolt* is the official publication of the club. Deadline for submissions to the *Microvolt* is the 10th of each month prior to publication. Submissions by email are preferred (uarc@xmission.com), but other means including diskettes and typewritten submissions can be mailed directly to: Telvin Mills, 6864 Beargrass Rd., West Jordan, UT 84084. All submissions are welcome but what is printed and how it is edited are the responsibility of the Editor and the UARC board. 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.

## UARC 2007 Board

President: John Brewer, N7MFQ	(435) 837-5646
Executive: VP: John Hays , K7VE	446-1899
Vice Pres: Gordon Smith, K7HFV	582-2438
Secretary: Dick Keddington, KD7TDZ	274-9638
Treasurer: Chuck Johnson, WA7JOS	268-0153
<i>Microvolt</i> Editor: Telvin Mills, KB6BYU	968-5089
Asst. <i>Microvolt</i> Editor: Toby Herrera, KE7GKU	
Program Chair: Dale Heisler, WJ7L	278-6458
Program Chair: Linda Reeder, N7HVF	364-7006
Imm. Past Pres: Roy Eichelberger, W7ROY	571-2447

## Committee Chairpersons and Members

"Book Lady": Fred Desmet, KI7KM	485-9245
Historian: Ron Speirs, K7RLS	968-4614
Field Day Chair: Vacant	
Club Trustee: Brett Sutherland, N7KG	298-5399
Engineer: Randy Finch, K7SL	277-7135
ATV Engineer: Clint Turner, KA7OEI	566-4497
Board Liaison &	
Autopatch Engineer: Gordon Smith, K7HFV	582-2438
Provo Autopatch Host &	
ATV Engineer: Dale Jarvis, WB7FID	224-3405

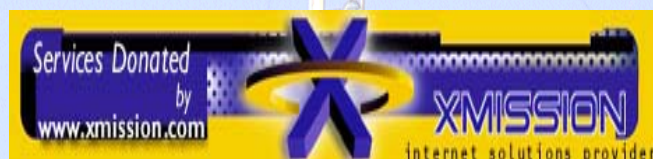
## IRLP Information

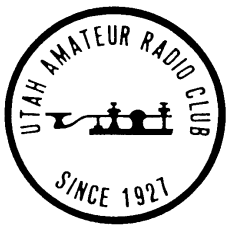
For information on using the club's IRLP node on the 146.76 repeater, check <http://www.utaharc.org/irlp>.

For late breaking news listen to the UARC Information Net Sundays at 21:00 on 146.62 or set your browser to: [www.xmission.com/~uarc/announce.html](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

March 2007

## QST From the UARC Board

Dear UARC Member,  
Your UARC Board has reviewed the costs associated with the steak fry.

First a little history. The steak fry was initiated as a club activity in early 1970s when the club treasury was running an annual surplus and the board, decided that it would be appropriate to spend some of the excess on a celebratory steak fry. Since that time the steak fry has become an annual tradition of the club.

As the club grew to a peak membership of over 600 dues paying members in the 1990s the cost was easy to absorb as the number of attendees was a fraction of the membership and the cost of the event was relatively low. A low

member cost was associated with "buying tickets" to attend, not so much as to defray costs, but rather to get an indication as to how many would be attending. Guests have traditionally been charged more to help defray costs. Both fees have been increased over time, but do not cover the actual costs of the event and now the annual steak fry places a heavy burden on the annual budget of the club.

As of 2006, the cost of the event was \$1370, with an attendance of 101 for an average expense per attendee of \$13.57. The combined reservation and guest charges equaled \$557 or \$5.52 per attendee, leaving a deficit of \$8.05 per attendee or



\$813 total which amounts 12% of the club's annual expenses.

The board recognizes the high value that the club membership places on the annual steak fry. It has become a tradition within the club. However, it is difficult with escalating costs and the decline of membership (currently about 300 members) to justify running the event at a deficit. Therefore, we seek your input the direction we should take in this

**Continued on Page 5**

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### Special points of interest:

- ◆ Next UARC Meeting March 1st—Circuit Simulation
- ◆ FCC Drops Morse Code Testing as of February 23rd
- ◆ Field Day June 23, 24 at Payson Lakes
- ◆ Steak Fry, July 14th at the Spruces Camp-ground



## Member of the Month

This month we are featuring Ned Stevens, K7ELP. Ned has been in the hobby for 50 years. He has his Extra class license. When Ned was a teenager in high school he had a great interest in electronics. This is what attracted him to amateur radio. Ned says he has his original call sign. The only time he had to use a different call sign was when he served in the military. Ned served in the US Coast Guard. Back in those days if you were going to be in a different call sign area for any length of time you had to have a call sign for that area. When Ned was stationed in New York City his call sign was WA2JAT. Ned was in the military for 26 years. His job was in electronic maintenance and repair. Ned is now retired.

Ned's favorite thing about amateur radio is homebrew. He loves to build and keep up with the state of the art in communications. He builds all kinds of things. Ned brought two items to our October 2006 homebrew night. One of the items was a 6-pole weatherproof remote antenna switch. The other item was an electronic name badge that would display his call in scrolling LED's. Ned also builds



battery chargers. Ned enjoys wood working and has quite a workshop in his home. Another thing Ned is really involved in is solar power. His entire ham station is run by solar power and has been for 8 years. Ned says that he would be glad to be an elmer for anyone interested in solar power or any of the other things that he has expertise in.

Ned is a member of UARC, ARRL, THE VHF Society and QCWA. QCWA stands for Quarter Century Wireless Association. If an individual has been in amateur radio for 25 years they can be a member of the QCWA. Ned checks in to the Beehive Net, the Farm Net and the VHF Society Net. Ned likes to DX on 6 meters. He likes it because it doesn't take

much power to get on 6 meters.

Ned enjoys going to hamfests. He says he has been to the Dayton hamfest once. Ned says it is his goal to go there one more time before he becomes a silent key. Ned said he is getting ready to go to the VHF Society swap meet at the end of February.

Ned, we wish you the best in all your adventures

73, Linda Reeder, N7HVF

HAPPY  
ST. PATRICK'S  
DAY

## QST From the UARC Board (cont'd)

matter. Please consider the following proposals and respond (list methods) with your preference. We shall then take a vote of the membership at the April general meeting as to the direction we shall take.

**Proposal 1** - Change the steak fry to be a "pot luck" meal, with the club picking up the cost of the venue (currently about \$170/yr.). This option will continue the grand tradition of socializing together, but each member can bring something to share as well as their own "steak" (whether that be beef, pork, chicken, tofu,

tuna sandwich, etc.), utensils, charcoal, etc.

**Proposal 2** - Continue to have the club sponsor the event, but change the charges for all attendees to be approximately equivalent to the cost of the event (e.g. \$11.00/per person in 2007 and adjusted annually) - so the club attempts to break-even on the event with any surplus going into the club general budget.

**Proposal 3** - Have the club continue to subsidize the event, but at a lower rate, with menu adjustments to help defray costs. Example,

members pay \$7 per ticket, with guests paying \$14. This would cut the loss by about 45-55%.

The cost savings would mean that the club could hold down dues increases and stay solvent. We could also consider more central venues for the club's meetings, additional activities, more guest speakers which may require some per diem if traveling to the area, etc.

Respectfully submitted,  
Your UARC Board.

## Ham Maps for DX'ers

The following listed web site is a pretty cool site for DX'ers. Here is the description from the OH/Penn DX Bulletin:

Darek, SP6NVK, informs OPDX that he has started a new ham atlas service on the Web after 4 years of

work on it. This service contains the complete information on all 337 DXCC Entities, over 3000 pictures and 1100 maps. He hopes everyone will enjoy and be satisfied in using his service. The Ham Atlas Web site is available at:

<http://www.hamatlas.eu/>

Just click on "English" on the above page and then choose your country from the drop-down "Entity" list or choose a page from the left-hand frame. Lots of neat info here to learn about that new country you just worked.

**Are you ready**  
to take that General or Extra Exam yet?  
If not, crack open your study manual and get with it.  
New privileges await.

## Gravity—It's the LAW

Well, the good weather is upon us. And that gets hams to thinking about antennas. Antennas, towers, and height! Trying new antennas and maintaining old ones are an honored and integral part of the Amateur Radio hobby. (Actually, there's some evidence that Murphy thinks Winter is the most appropriate antenna maintenance season, but that's another discussion.)

Now, everybody knows that you don't climb without a safety belt as you work on your tower. Towers are usually 20 feet or higher. High enough to get the arrays over the trees, but low enough to avoid antagonizing the neighbors' sensibilities. Also you can drop a lot of hardware from up there.

And that's the point of this article. If there's ever a chance of anyone being below you as you work on your antenna—whether it's on a tower or just hanging from an anchor on the peak of the house—be sure they're wearing a hard hat.

Think of the physics.

$V=aT$  (Velocity equals acceleration multiplied by the time)

$S=(1/2)aT^2$  (Distance is one-half the product of accelera-

tion and the square of the time)

Given a normal human reaction time of 0.3 seconds, dropping something from the top of a 6 foot step ladder gives you barely enough time to think "Whoops!" before it hits the floor.

Distance	Fallen Time of Fall	Speed of Impact
6ft	0.61sec	19ft/sec
16ft	1.00sec	32ft/sec
25ft	1.25sec	40ft/sec
50ft	1.76sec	56ft/sec

From the roof of a single story house you have time to say "Oh, my!" or your favorite expletive.



When you drop a wrench from the 25 foot tower you have time to say "Heads up." And your assistant has time to react, instinctively look up, and catch it in his teeth.

From a 50 foot tower you have just enough time to say "Holy cow, it's a long way down." But there still isn't enough time to get out of the way.

The reason things seem to take so long to fall is that they aren't traversing your field of vision. As you follow them down the axis of their trajectory they just seem to get a bit smaller. Look at the trajectory side-on and you'll see the object moving faster and faster in a remarkably short time. To your helper the surprise happens rather quickly, and at the last moment.

Interestingly enough, the speed of the impact from a one-hundred foot fall converts to 54.5 miles per hour so you can easily simulate the experience by jumping out of your car. (Assuming you're one of the slower drivers on the road...)

Funny, the excuses are rampant: "I'll look like a geek". "I'm only helping for a minute." "I didn't get around to buying one." But the consequences aren't.

# Amateur Radio Word Search



E V O P Z S T A T I C D S H E A T E R R H V  
 M R V P A R A L L E L B A T R O P A E E T O  
 U A E I U S N F X E L P M I S D X M T G G I  
 U G R H M H S P E C T R U M N M U E T U N C  
 C C L C P U O B P T V P M S I I R E I L E E  
 A H O A O S L H A L Y V F C N O C P M A L J  
 V E A E U N O T G N I L R A D A T Y E T E S  
 U W D R L N I M I K D O M Y F Q R P N I V B  
 R P E C E U E B T M F R N R T U N S I O A S  
 X H C T A P O T U A E E E E C A E M L N W B  
 G N I D A F F J R G C T K R I D D K D L H E  
 S C B N I M B A L A N C E R P M O W R N Q A  
 S P E R I O D I C I O M E R O T I C A P A C  
 P O L A R I T Y Y S G L K H R D D J H Y Z O  
 H J S I A D I C V P P H X E T A L U S N I N  
 A U S T N A T C A E R M T H O H Y H N B M W  
 S A I U T V U T K D R E O N S P U R I O U S  
 I O O D E N E S R P M T T B I L F P A B T P  
 N R L A N I M R E T F I E I N O Y G N H M  
 G T B G N V O L T A G E U C M L G S Z V I I  
 M L C O A X I A L E Y P X M A M E N U L A B  
 K M L K R O W T E N R H H R N L H G I I B I  
 Y Y E V H E O H E L I C A L U M R O F E V Z

Antenna	Diode	Insulate	Ohmmeter	Simplex
Atmosphere	Emitter	Interface	Overload	Socket
Autopatch	Exposure	Inverter	Parallel	Spectrum
Azimuth	Fading	Isotropic	Passband	Spurious
Balun	Farad	Joule	Periodic	Static
Bandwidth	Formula	Keplerian	Phasing	Terminal
Beacon	Gain	Lamp	Phonetics	Vacuum
Binary	Germanium	Lightning	Polarity	Vertical
Bipolar	Ground	Marconi	Portable	Voice
Cadmium	Hardline	Mercury	Quad	Voltage
Capacitor	Heater	Microfarad	Radiation	Wattmeter
Coaxial	Helical	Mobile	Ragchew	Wavelength
Darlington	Heterodyne	Multimeter	Reactants	Yaesu
Decibels	Imbalance	Network	Regulation	

## March Meeting: Circuit Simulation

**Thursday, March 1st, 7:30 PM, Room #103**

Have you ever built a circuit and then tried to determine why it didn't behave as you had hoped? Many of us have, and sometimes spent days measuring and experimenting to isolate the problem. But now you can do the experimenting before you ever build the circuit, all on your computer screen!

Our March meeting will feature Mike Mladejovsky, WA7ARK, who gave us the presentation last year about the Mmana antenna modeling program. This time Mike will be telling us about a free program for circuit emulation, LTSpice. This program will let you construct a circuit on the screen and then run tests to see how it behaves. You can see immediately how small changes in values will affect the performance without ever having to get out a soldering iron.

For those who would like to get a head start, you can download the program at [www.linear.com/designtools/softwareRegistration.jsp](http://www.linear.com/designtools/softwareRegistration.jsp). Just choose the link that says "No thanks, just download the software."

The program was created by Linear Technology, a company that produces a wide range of

linear integrated circuits. The program includes models for the company's products, and so it is hoped that it will encourage engineers to use LT parts in their designs. For the experimenter, it is a great source of a free program that someone else maintains. Mike will demonstrate how to enter some simple circuits and how to see the results.

That will be on Thursday, March 1st, at the usual time, same building, room #103.

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

- Availability of ARRL books from Fred, 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(s) after the meeting":

A chance to enjoy pizza or other gastronomic delights with other hams. One group goes to Litza's Pizza, 716 E. 400 South.

## Exam Schedule

3/07/07 (Wed.) Farmington

Contact: Mike Youngs, KK7VZ

Phone: (801) 573-3922

3/10/07 (Sat.) Logan

Contact: Roberta M. Lofthouse, KJ7LQ

Phone: (435) 245-6632

3/15/07 (Thu.) Roosevelt

Contact: R chandler Fisher, W7BYU

Phone: (435) 722-5440

3/21/07 (Wed.) Provo

Contact: Steve Whitehead, NV7V

Phone: (801) 465-3983

3/21/07 (Wed.) St. George

Contact: Ron C. Sappington, WI7Z

Phone: (435) 673-4552

3/27/07 (Tues.) Salt Lake City

Contact: Eugene McWherter, N7OVT

Phone: (801) 541-1871

04/07/07<sup>1</sup> (Sat.) Salt Lake City

Contact: Gordon Smith, K7HFV

Phone: (801) 582-2438

04/18/07 (Wed.) Provo

Contact: Steve Whitehead, NV7V

Phone: (801) 465-3983

04/18/07 (Wed.) St. George

Contact: Ron C. Sappington, WI7Z

Phone: (435) 673-4552

04/24/07 (Tues.) Salt Lake City

Contact: Eugene McWherter, N7OVT

Phone: (801) 541-1871

05/16/07 (Wed.) Provo

Contact: Steve Whitehead, NV7V

Phone: (801) 465-3983

05/16/07 (Wed.) St. George

Contact: Ron C. Sappington, WI7Z

Phone: (435) 673-4552

5/17/07 (Thu.) Roosevelt

Contact: R chandler Fisher, W7BYU

Phone: (435) 722-5440

05/29/07 (Tues.) Salt Lake City

Contact: Eugene McWherter, N7OVT

Phone: (801) 541-1871

<sup>1</sup> Pre-registration required. Contact the contact person prior to the examination date.

For more detail either call the contact or checkout the information on our web-page:

<http://www.xmission.com/~uarc>