

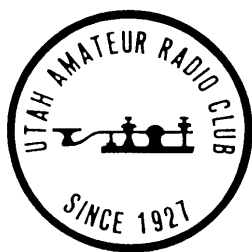


At UARC's October meeting, we had a number of members present their homebrew projects. Above are two of our members who emceed the meeting. Left to Right: John, KA7TGR and Ron, K7RJ. John Bradshaw, KA7TGR, shows a power cord with a series light bulb. This device is useful for gently powering up old consumer radios such as the famous Zenith "Trans-Oceanic" made in several versions during the 1940s. John has done extensive restoration work on many antique broadcast radios. Ron Jones, K7RJ, built a pair of *light* transceivers using pulse-width-modulated laser pointers as the transmitters and photo diodes as the basis for the receivers.

**\*\*Next UARC meeting will be in the same building, new room EMCB #103.\*\***



## Solar Power



Volume 49, Issue 10, November 2006

Periodicals Postage

# The Microvolt

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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 on both the Orem exchange (covering Santequin to Lehi) and the Salt Lake City exchange (covering Draper to Layton). The 449.10 repeater has autopatch facilities into Salt Lake City only available to UARC members. Due to the volume of traffic, only mobiles should use this autopatch. Autopatch use is open to all visitors to our area and to all club members. Non-members who wish to use the autopatch are encouraged to help with the cost of maintaining the equipment by joining the club.

**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 2006 Board

President:: Roy Eichelberger, W7ROY	571-2447
Executive VP: John Brewer , N7MFQ	837-5646
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: Bryan Mogensen, W7CBM	281-1752
Program Chair: Brett Sutherland, N7KG	298-5399
Program Chair: Dave Jeffs, KK7WI	538-3506
Imm. Past Pres: Glen Worthington, WA7X	272-8825

## 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>.

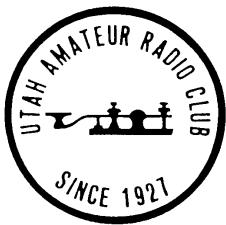
For late breaking news listen to the UARC Information Net Sundays at 21:00 on 146.62 or set your browser to: [www.xmission.com/~uarc/announce.html](http://www.xmission.com/~uarc/announce.html)

We are grateful to the management of XMission, our Internet Service Provider (ISP), for the donation of this Web-Page service.

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Or call 801 539-0852







# The Microvolt

## QST From the Prez

I would like to thank all who were going to assist with JOTA. This event did not happen this year due to crossed-wires between the Great Salt Lake Council of BSA and the people at Thanksgiving Point. The up-side to the cancellation was that I was able to meet with the BSA district counselor who is over JOTA. He and a committee are going to start making plans for next year's JOTA. The committee will include the Girl Scouts and Guide Scouts. How cool is that!



Our own committee will be working on next year's nominations. There will be time at this meeting and the December meeting for the nominations from the floor for any position on the board of directors. I want to encourage all who would like to serve the club to let your desires be known. Serving on the board for the past three years has been a very rewarding experience for me.

Last month's "homebrew" items were great! I want to thank all who participated. Ron, thanks for filling in for John. You did a great job!

73 de W7ROY

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### Special points of interest:

- ♦ *Next UARC Meeting  
November 2nd—Solar  
Power*
- ♦ *New meeting room  
#103*
- ♦ *Time to nominate new  
officers for 2007*
- ♦ *IRLP on 146.76 Opera-  
tional*

## Member of the Month

This month we are featuring John Bradshaw, KA7TGR. John has always been interested in radio. As a child, John built broadcast radio transmitters. He was very active in CB radio.

When John was attending Salt Lake Community College, one of his friends said "I have something to show you."

They went out into the parking lot and John couldn't believe his eyes. His friend had a Yaesu 208R, a handheld with a rubber duck antenna. He was listening to the space shuttle flying overhead. John couldn't believe that his friend could pick up the space shuttle with just a rubber duck antenna mounted on his truck. After all John was used to working with huge antennas. It was then that John knew he needed to move on and get into amateur radio. There was another incident that confirmed this decision even more. John was caught in a snowstorm and tried to get help on the CB radio, but all he could get was some jerk that wanted to play his guitar on the CB radio and wouldn't help him at all.

In 1983, Kerry Howard gave John his Novice test and he passed. A month later John obtained his Technician license. John said on his way home from the test session, Gordon Smith, K7HFV, was his very first contact.

John remained a Tech for a very long time. It was the code that kept him back. He could pass the theory tests just fine, but the code was giving him some trouble. After all, he owned his own TV repair shop for 15 years. He also had his First Class Commercial radio broadcast license way before he ever got into ham ra-

dio. Finally in 2002, John obtained his Extra class license. This was when the only requirement for CW was 5 words per minute, which he already had.

What does John like best about amateur radio? Of course, home-

brew. For many years John has been in charge of UARC's homebrew night which is our October meeting. John loves to build things. His workbench is in his living room. He likes to repair and restore antique broadcast radios and then he sells them to dealers. John loves those old vacuum tubes. Sometimes they are not available so he uses 9-volt batteries to make the radios work. John has a talking voltmeter. He really likes it because he doesn't have to look at it when he needs to test his batteries. Right now he is working on a 1925 RCA radio and plans to bring it to homebrew night.

For eight years John worked for the Granite School District police. He was in charge of all two-way radios and wireless communications. John quit that job after the Olympics were over because he wanted to help his dad with the family farm business. They sell cherries and other farm products to stores.

John is a member of the VHF Society. John has been a member of UARC for a long time. John says he was a member of UARC before he ever became a ham radio operator. John loves to hike and



has fond memories hiking on Lone Peak with Gordon Smith, K7HFV, Randy Finch, K7SL, and others. He said they would talk to each other for miles on simplex. He says they used to pretend there was a swap meet going on and sometimes people would believe them. Also, for 5 years John had a column called the Geiger Corner, which was about basic electronics.

John, we really appreciate your hard work on UARC's homebrew night and best wishes on all your projects.

73, Linda Reeder, N7HVF

### New address for:

#### **Communications Products**

7650 S. REDWOOD RD STE. D  
WEST JORDAN, UTAH 84084  
PHONE: 801-567-9944  
FAX: 801-566-7553

#### Current Hours:

Tuesday thru Friday 11:00AM-5:00PM

Saturday 10:00AM-2:00PM

CLOSED SUNDAY AND MONDAY

The Microvolt, November 2006

# October Homebrew Meeting



Chuck Johnson, WA7JOS, constructed a device to facilitate networked logging on Field Day. It interconnects lines from the various stations and includes regeneration of the RS-232 signals and bypassing of any station whose computer is accidentally shut down. Its weatherproof box allows it to be left outdoors in the rain. Chuck's second project was an amplifier to drive multiple sets of headphones and control the volume to each one independently.



Tim Purser, WB7CIW, shows an audio amplifier he built many years ago as an eighth grade Science Fair project. He particularly wanted to give credit to the teacher who inspired him to learn about electronics.



Tony Naef, KE7BBG, showed a printer interface for an Atari computer and an "Easter Egg" from a Tektronics oscilloscope.



Club Secretary, Dick Keddington, KD7TDZ, built a 24-hour clock that includes two hour hands so that local time and UTC can be displayed simultaneously.



Ron Jones, K7RJ, built a pair of light transceivers using pulse-width-modulated laser pointers as the transmitters and photo diodes as the basis for the receivers. The project was done almost entirely on the night before the meeting. Here, he sets up to communicate across the room with his XYL, Elaine, N7BDZ. At one point in the setup he commented, "We seem to be getting some static." Elaine's response brought the house down:

"I'm *supposed* to give you static, Ron. I'm your *wife*."



Eugene McWherter, N7OVT, shows off a sleeve dipole. Eugene also showed a battery state checker.



Ned Stevens, K7ELP, shows off a 6-pole weatherproof remote antenna switch. He also showed an electronic name badge that would display his call in scrolling LEDs.



J.J. Wallace, KE7GHK, put together a portable repeater that can be deployed as needed and set to whatever frequency pair is available.

*All photos of homebrew night are provided by club photographer Ron Speirs, K7RLS.*



## Homebrew—Continued



Chris Perri, KE7FYP, shows a collapsible, 5-element, two-meter Yagi. The design, from one of the ARRL publications, uses a modified FM broadcast antenna available from Radio Shack.



John Brewer, N7MFQ, UARC Executive Vice-President, built an interface to a computer sound card for use with the computer digital modes such as PSK-31. John's interface was used successfully at UARC's PSK-31 station during last June's Field Day entry.



Dale Heisler, WJ7L, built a sequencer to solve a problem unique to mast-mounted preamplifiers. A preamp at the antenna solves the problem of degraded receive performance due to coax loss. A pitfall, however, is that transmitting while the preamp is still connected can destroy the preamp. The sequencer makes sure that components of the station go on and off in the right sequence during the switch from receive to transmit.



Clint Turner, KA7OEI, shows his unit to control Gunnplexer units on the 10- and 24-GHz bands. His box is unique because it measures temperature and makes adjustments to the tuning voltage to compensate for the Gunnplexer's normal frequency change with temperature. This improves frequency stability by a factor of 10-to-1 over using a fixed voltage. The controller can be pre-programmed with information about the temperature curves of several different Gunnplexers.



"Woody" Woodruff, KC7YLH, built a collapsible two-meter J-pole with a PVC base support. The J-pole is made of copper pipe sections held together with bungee cord as per a QST article. Woody says the antenna can be set up in a driveway in a very few minutes, and is useful for attracting questions from the public as well as providing a quick antenna for emergency situations.



Brett Sutherland, N7KG, shows his partially completed Gunnplexer controller.

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## KB7GSE-SK

We have recently learned of the death of Guy Robert Scofield, KB7GSE, of Orem, Utah. Robert passed away on Thursday, September 21, of kidney failure. He was 73.

Robert held a General class license and was a frequent participant in a number of area nets. Despite some medical handicaps, Robert attended almost every UARC meeting, taking a complicated string of busses and trains to get from Orem to the University of Utah campus.

KC7DXH has supplied the following obituary:

KB7GSE

Guy Robert Scofield passed away early in the morning on September 21, 2006. He was born on July 30, 1933, in Inglewood, California. He is the son of Guy Wixon and Clara Lavon Scofield. He graduated from Inglewood High School and worked for years at the Cerebral Palsy Foundation. He later moved to Ogden, Utah; and, in the later years of his life, moved to Orem, Utah. Robert obtained his Amateur Radio License, enjoyed playing his organ, and visiting people at the senior center. He was active in The Church of Jesus Christ of Latter-day Saints and was a devoted home teacher. He is survived by his mother, Clara Lavon Scofield; and his three brothers: Gary Duane Scofield, of Las Vegas, Nevada; Mark Nathan Scofield, of Provo, Utah; and Paul David Scofield, of Orem, Utah. Published in the Daily Herald on 9/24/2006.

## W7RQT-SK

With deep regret we note the passing of Pat Buller, W7RQT. He died on Monday, September 18, of complications from lung cancer.

Pat has lived in the Seattle area for several decades, but was once a key figure in Utah's amateur radio scene. He was instrumental in getting some of Utah's first FM repeaters on the air and in solving an early problem of malicious interference and vandalism. He was active on HF and in DXing on VHF, with a large number of states worked on 2-meter meteor scatter. He was particularly well-versed in antenna theory and practice and was a popular speaker at local clubs. He did frequency measurements for commercial broadcast stations and had such an effective directional antenna on the broadcast band that he could measure, independently, three different stations on the same frequency: one in Price, one in Wyoming, and one in Salt Lake City.

A number of Utah hams have continued to keep in touch with Pat via HF schedules, Internet, and other means. He will be greatly missed.

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Left: Ron Speirs, K7RLS, demonstrates a keyer using touch sensing rather than the traditional mechanical contacts.

Right: Ron's second project, a favorite of the audience, showed how to make good use of a pair of old CB radios: They make great bookends!



# November Meeting: Solar Power

## Thursday, November 2nd, 7:30 PM, Room #103

The next UARC meeting will be Thursday, November 2, and will be the time to nominate officers for 2007. The nominating committee will present its slate of candidates for the coming year and there will be a chance to nominate from the floor. For anyone who thinks some aspects of the club's operation could be improved, this is your chance! Volunteer or find someone else willing to run who agrees with your plan. Remember, before nominating someone for office you must have his (or her) permission.

If you would like to volunteer sooner than the meeting night, that's even better. Just get in touch with any of the club officers.

The meeting will also feature Jim Brown, NA7G, giving us a practical view of solar power. Jim has a cabin which is not close enough to any commercial power lines to allow access at practical prices, so most of his electrical power comes from his solar installation. He will show pictures and tell us what all is required to make a solar power installation including panels, batteries, regulators, inverters, and wiring. He will also tell us how to estimate the cost of a package. Those who have seen his presentation recommend it highly.

That will be on Thursday, November 2nd, at the usual time, same building, **new 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. Another group goes to a restaurant that varies from month to month, but will be announced at the meeting.

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. This time it will be at the "Arby's," 420 East 400 South in Salt Lake City.

## Exam Schedule

11/01/06 (Wed.) Farmington  
Contact: Mike Youngs, KK7VZ  
Phone: (801) 573-3922

11/15/06 (Wed.) Provo  
Contact: Steve Whitehead, NV7V  
Phone: (801) 465-3983

11/15/06 (Wed.) St. George  
Contact: Ron C. Sappington, WI7Z  
Phone: (435) 673-4552

11/16/06 (Thu.) Roosevelt  
Contact: R Chandler Fisher, W7BYU  
Phone: (435) 722-5440

11/28/06 (Tues.) Salt Lake City  
Contact: Eugene McWherter, N7OVT  
Phone: (801) 541-1871

12/02/06<sup>1</sup> (Sat.) Salt Lake City  
Contact: Gordon Smith, K7HFV  
Phone: (801) 582-2438

12/09/06<sup>1</sup> (Sat.) Logan  
Contact: Roberta Lofthouse, KJ7LQ  
Phone: (435) 245-6632

12/20/06 (Wed.) Provo  
Contact: Steve Whitehead, NV7V  
Phone: (801) 465-3983

01/17/07 (Wed.) St. George  
Contact: Ron C. Sappington, WI7Z  
Phone: (435) 673-4552

01/17/07 (Wed.) Provo  
Contact: Steve Whitehead, NV7V  
Phone: (801) 465-3983

01/25/07 (Thu.) Roosevelt  
Contact: R Chandler Fisher, W7BYU  
Phone: (435) 722-5440

01/30/07<sup>1</sup> (Tues.) Salt Lake City  
Contact: Eugene McWherter, N7OVT  
Phone: (801) 541-1871

02/03/07<sup>1</sup> (Sat.) Salt Lake City  
Contact: Gordon Smith, K7HFV  
Phone: (801) 582-2438

02/07/07 (Wed.) Ogden  
Contact: Mary Hazard, W7UE  
Phone: (801) 430-0306

*(Last Tuesday test in Salt Lake City omitted in December.)*

<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>