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's Warnock Engineering Building in room 1230, The "Duke Classroom."

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: Tony Naef, 4585 Sunstone Rd. #327, Taylorsville, UT 84123. 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 2008 Board

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Board Liaison &	
Autopatch Engineer: Gordon Smith, K7HFV	582-2438
Provo Autopatch Host &	
ATV Engineer: Dale Jarvis, WB7FID	224-3405

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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

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

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October Meeting: Homebrew Night

The October UARC meeting is, for many people, the highlight of the year. It's Homebrew Night, the night when everyone can show off their homemade amateur radio equipment and antennas. If you've been working on a new linear amplifier, transverter, keyer, power supply, gunnplexer, phone patch, audio processor, or software defined radio, this will be your chance to show it off. Just get it ready by Thursday, October 2, and bring it to the meeting. If your project is, say, a full-sized 160-meter beer-can Yagi, then it might be better to show it off with pictures and drawings. We will have digital projection facilities available.

Even if you haven't been homebrewing anything, you'll likely want to come out and see what the rest of the group has been doing. There are often some very creative projects and ones that might give you ideas for a project of your own.

That's Thursday, October 2, 7:30 P.M., in room 1230 of the Warnock Engineering Building on the University of Utah campus. For information and a map showing how to find this building, see http://www.xmission.com/~uarc/meetmap.html. The meeting will include the usual features of a UARC meeting including a chance to look over and purchase ARRL books, pay UARC or ARRL dues, and possibly win a door prize. For those who would like to get together for a bite to eat beforehand, the "Meeting Before the Meeting" this month is at the Greek Souvlaki, 404 E. 300 South.

Latest News

Our Cover

Our cover photo this month shows our "Educational Activity" from the UARC Field Day entry last June. Our Treasurer, Chuck Johnson, WA7JOS, conducted a soldering class in which a number of young people and some not-so-young people could watch a demonstration and then try their hand at making a good solder connection. A hands-on activity of this sort was worth 100 bonus points according to this year's scoring rules.

Western Reflector Web Site

Those who make use of the IRLP "Western Reflector" may want to check out a new web page that shows the current status of the reflector in considerable detail. The URL is:
http://www.narri.org/reflectormap.html.

This page shows not only what nodes are connected to each channel of the reflector, but even contains a map showing where each one is in the world.

The software that makes this page possible was written by a former Utahan, Brent Sylvester, W6IB, formerly K7YKO in his Utah days.

IRLP stands for "Internet Radio Linking Project," a system that allows properly equipped repeaters to link with one another using the Internet. Normally, a connection just allows communication between two "nodes" (repeaters or simplex nodes). However, a number of reflectors in various parts of the world allow a large number of nodes to connect with one another simultaneously. Each node connects to the reflector instead of to a peer node; then all the nodes connected can hear one another.

The Western Reflector, located in Las Vegas, is one of the most active of all IRLP reflectors. It is operated by Nevada Amateur Radio Repeaters, Inc. (NARRI), a group headed by Kent Johnson, W7AOR, who many Utah hams know from his school days in Utah.

The Western Reflector is very accessible in Utah due to a group of Utah repeaters that are essentially permanently connected to the reflector. These repeaters are operated by Dave Williams, WA7GIE, and include 449.425, Nelson Peak; 449.475, Lake Mountain; and 449.55, Lewis Peak and Wendover. All require a PL (CTCSS) tone of 100 Hz.

One can also access the Western Reflector from any steerable node (such as UARC's node on 146.76) by connecting to node 9250.

Nominations Needed

It's time to begin thinking about nominations for officers for 2009. The club will be forming a nominating committee to find candidates for all the offices. If you would like to help with the process or volunteer for an office, let one of the officers know. Now is the time to be plotting our course for the new year. If you would like to see new or different activities, this is your opportunity to influence next year's plans.

In accordance with the bylaws, the nominating committee will present its choices at the November meeting. Additional nominations will be accepted from the floor. Then, at the December meeting, nominations will be accepted once again followed by voting.

Davis/Ogden Swap Meet

Who can resist a swap meet? The next one coming up is on Saturday morning, September 20, sponsored jointly by the Davis County Amateur Radio Club (DCARC) and the Ogden Amateur Radio Club (OARC). Location is Founders' Park in Centerville, approximately 350 N. 100 East. Everyone is welcome; there is no entry fee.

Become a Famous *Microvolt* Author!

Have you done something interesting in amateur radio lately? Did you learn something new from your latest homebrew project? Are you involved with a group doing something out of the ordinary? How about sharing our experience with the rest of the group through an article? Contact the acting editor, k7hfv@arrl.net, or 582-2438.

Is Internet Killing Ham Radio?

By Norm Fusaro, W3IZ
(From the August 28 issue of *ARRL Club Newsletter*)

Today the World Wide Web offers extended range for much of the population but before the internet radio amateurs ventured beyond the local neighborhood through the magic of radio. For decades, long before the internet, hams would use radio as a means to maintain friendships, stay in touch with loved ones and help others contact family in remote places of the globe.

Long distance chess was once a popular on-air activity. Amateur Radio operators would set up chess boards and moves were exchanged over the air. Each radio operator maintained their chess board according to the moves transmitted by each other. Often these games would be played out over the course of days or weeks during scheduled contacts. The activity was not about finishing the game quickly as it was it was about meeting on the air often.

A lot of naysayers have claimed the internet to be the death of Amateur Radio. In fact some non-radio people when asked about ham radio will respond with "hasn't the internet made that obsolete?" On the contrary, if anything the internet has enhanced Amateur Radio. Think about the many ways hams use the internet.

Radio Clubs

Club members can stay informed all the time through the use of e-mail reflectors. Various users' groups allow people to exchange ideas and information about their favorite piece of equipment or operating mode. If you think about it these users' groups are like virtual specialty clubs for people with a shared interest.

Many clubs use the internet to distribute electronic newsletters and maintain websites to keep members informed and attract new members.

The DX Game

Some of you may remember "two-ringers," when your buddy would call your house and let the phone ring two times then hang up. This code was to let you know about some hot DX that was on the air. Of course you would not dare answer the telephone before the second ring for fear of someone incurring a long distance charge. Today, through the use of the internet we can utilize real-time DX spotting networks to find out which stations are on the air. If you have your rig interfaced with your PC using the appropriate software, the network will automatically switch your transceiver to the DX's operating frequency.

The internet has enhanced the DX game in other ways by providing DXpedition log information on line while the DXpedition is still in operation. This helps eliminate the "insurance" QSOs and allows the DXpedition to work as many stations as possible while limiting the number of duplicate contacts.

There are software programs available that monitor the DX cluster and if a needed DX station is spotted you will receive an e-mail alert on your Blackberry or other personal e-mail device. How cool is that? Just look at it as the digital version of the two-ringer DX alert.

Contesting and Awards

ARRL's "Logbook of The World" would not be possible without internet technology. LoTW's use of public and private keys lets users all over the world upload electronically signed logs and when QSOs are matched the users receive credit for their contacts to be used toward awards. More

information about Logbook of the world can be found on the ARRL website:
http://www.arrl.org/lotw/

Contest scores are now published on the internet allowing participants to quickly sort and analyze the data.

Public Service

A variety of public service groups such as ARES use the internet to call up volunteers, maintain databases of people and equipment available for disasters and to inform the public of their services.

Being able to transmit digital information via radio and then inject it into the internet electronic mail system has allowed radio amateurs to move messages much faster than was possible using the antiquated relay system.

Licensing and Education

Today many people will prepare for their Amateur Radio license exam by using one of the many practice exam websites. These sites will randomly quiz the user from the VEC question pools and score the results. This undoubtedly eases some of the test jitters and exposes areas of strength and weakness.

ARRL offers an on-line license class for those applicants who may have scheduling conflicts with traditional classes or just enjoy doing things at their own pace.
http://www.arrl.org/cce/Tech.html

In addition to licensing courses ARRL offers a series of Emergency Communications courses (EmComm Level I, II, III) and other subjects such as Antenna Modeling, Radio Frequency Interference and HF Digital Communications.
http://www.arrl.org/cep/

On The Air

The Internet Repeater Linking Project (IRLP), Echolink and remote base stations could not exist without the internet. These technologies have opened the world of amateur radio to a whole new group of users as well as offered areas of experimentation to seasoned radio amateurs.

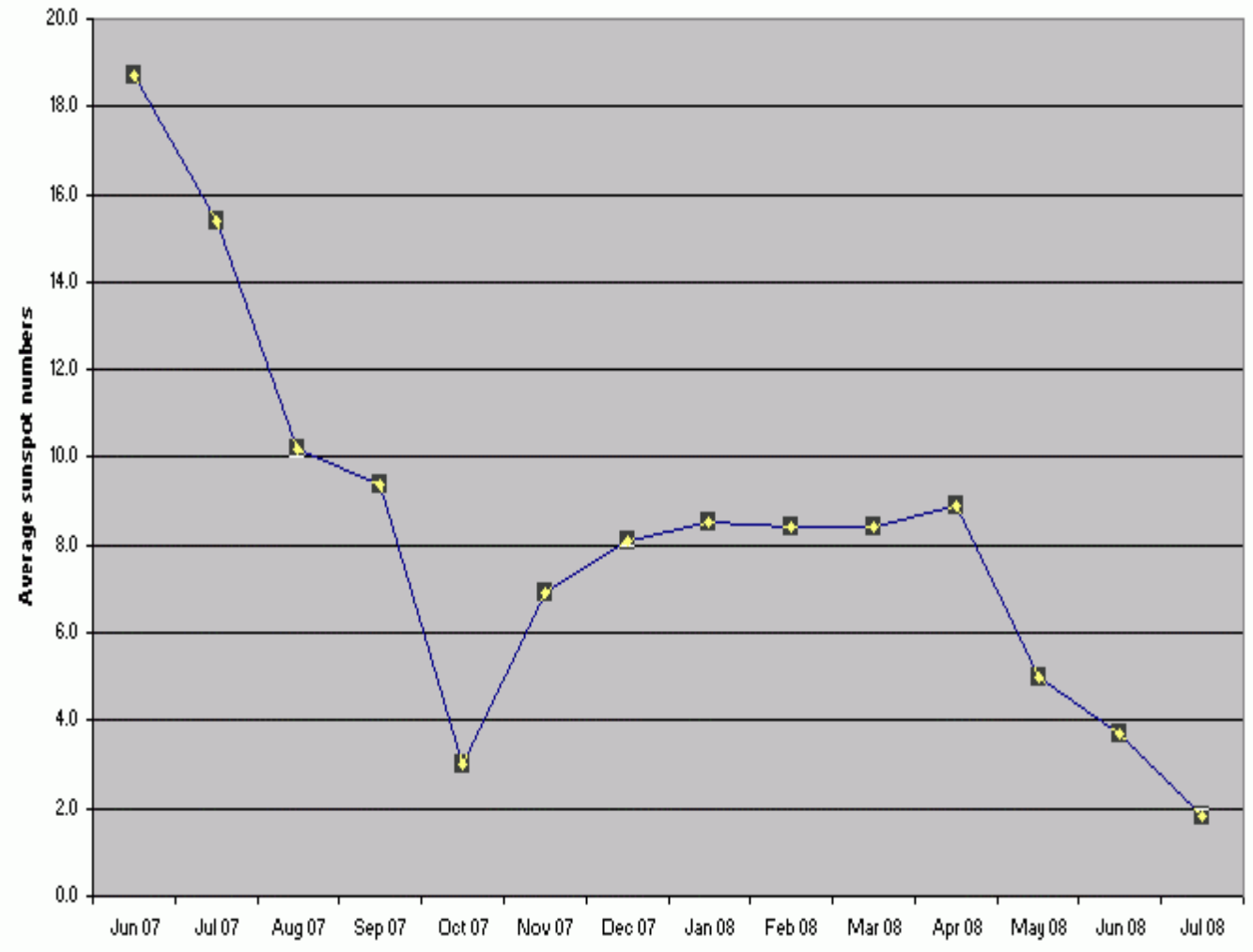
Adaptability

Traditionally the Amateur Radio service has always made use of whatever was available. Whether salvaging parts from discarded television sets in the 1950s, repurposing surplus military equipment in the 1960s or integrating electronic hardware today, hams have always utilized technology in creative ways to suit their needs. An internet connection in the ham shack is as common as the J-38 straight key once was. The fact that you are reading this e-letter demonstrates the positive influence the internet and computers have had on Amateur Radio.

Sunspots Continue Low

The news in the world of propagation is that there is no news. The sun continues to be spotless for long periods and solar flux hangs around the quiet-sun level of 65.

Tad Cook, author of ARRL's weekly propagation forecast bulletins, has been using a slightly non-standard approach to view our position in the sunspot cycle. Normally, a six-month moving average is used to filter out the short-term peaks and valleys of sunspot activity. The problem with



this system is that one doesn't know when the low point of the cycle has occurred until many months after the fact. Tad has been calculating a three-month average to give up some of the smoothing in return for fast response. The sunspot numbers for each day of the month in question as well as those for the months preceding and following are added together and then divided by the total number of days in the three months. For example, to get the number for July, the numbers for all the days in June, July, and August are added together and then divided by 92, the total number of days.

The resulting picture is interesting. The number dropped from 18.7 in June of 2007, to just 3 in October of the same year. It then began rising, reaching a value of 8.9 in April of this year. So the minimum was last October, right? Not so fast! The subsequent numbers were May: 5, June: 3.7, and July: 1.8. August is likely to be even a bit lower. As of the August 29 bulletin, we had gone 42 days with no sunspots at all. This puts us at the lowest level yet on the declining side of cycle 23.

Still, a quiet period this long is not all that unusual. Cycle 20, which ran from 1964 to 1977, had a very similar pattern.

Low sunspot numbers and solar flux generally mean that the higher HF bands (17 meters and up) are often not open at all and 20 meters tends to close soon after sunset. The good side is that there are relatively few blackouts due to coronal holes and solar flares, and the lower bands have longer skip. The 160-meter band is at is best in the wee hours of cold winter nights near the sunspot

minimum. Demonstrating the difference is a letter Tad received from John Andrews, W1TAG, apparently one of the select stations authorized on the new experimental frequency segments. John writes:

"On the other hand, those of us playing at 505 and 137 kHz are quite delighted with the quiet sun! A little kick every now and then to recharge the supply of free electrons, and we're all set. The transatlantic stuff is *much* easier than it was 4-5 years ago. Oh well, the pendulum will swing the other way with a vengeance, I'm sure. Then you'll be happy, and I'll be sad."

Randy Crews, W7TJ, of Spokane, Washington, offered this on August 27 in a message titled "Bumping along the bottom":

"I see we have been spotless now for 37 straight days, which I think exceeds the number of spotless days in October of 2007 and could possibly exceed the 6-week period of spotless days we had in Sept/Oct of 1996. Possibly this month could set a double minimum in Cycle 23. One thing that has really helped the bands in the last few days, along with A and K indices of 0-2, is that the sun is void of any coronal disturbances....BIG difference! If we could get some Cycle 24 spots, we would surely be off and running! As it has been said, it's darkest just B4 dawn."

License Examination Schedule

Date	Location	Contact Person	Phone
09/17/08 (Wed.)	Provo	Steve Whitehead, NV7V	465-3983
09/17/08 (Wed.)	St. George	Gary O. Zabriskie, N7ARE	(435) 674-2678
09/18/08 (Thu.)	Roosevelt	R Chandler Fisher, W7BYU	(435) 722-5440[1]
09/30/08 (Tues.)	Salt Lake C.	Eugene McWherter, N7OVT	541-1871[1]
10/01/08 (Wed.)	Ogden	Mary Hazard, W7UE	430-0306
10/04/08 (Sat.)	Salt Lake C.	Gordon Smith, K7HFV	582-2438[1]
10/15/08 (Wed.)	Provo	Steve Whitehead, NV7V	465-3983
10/15/08 (Wed.)	St. George	Gary O. Zabriskie, N7ARE	(435) 674-2678
10/28/08 (Tue.)	Salt Lake C.	Eugene McWherter, N7OVT	541-1871[1]
11/05/08 (Wed.)	Clearfield	Mike Youngs, KK7VZ	573-3922

Footnote 1: Preregistration is required. Check with the contact person prior to the exam.