



ARRL VHF Contest Operation from Antelope Island

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 101.

Membership: Club membership is open to anyone interested in amateur radio; a current license is not required. Dues are \$15 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 \$15 may obtain a membership without a Microvolt subscription for \$9. Send dues to the Club Secretary: Gregg Smith, K7APW, 7546 S. Uranium Dr., West Jordan, UT 84084-3942. 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: Tom Schaefer, 11678 Littler Rd., Sandy, UT 84092. 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: Gregg Smith, 7546 S. Uranium Dr., West Jordan, UT, 84084-3942.

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ATV Engineer: Dale Jarvis, WB7FID	224-3405
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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

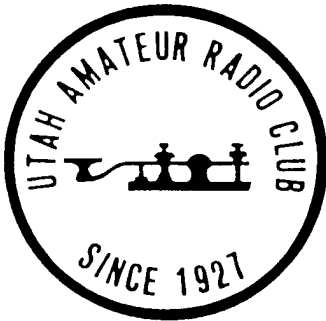
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The Microvolt

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Volume 47, Issue 2, February 2003



QST from the Prez

Brett Sutherland, N7KG

At the January meeting we introduced a new program. Perhaps it isn't all that new to the hobby, but we've added a little twist. Let me explain.

It is no secret that licensing has become easier in amateur radio. I won't argue the merits of those decisions. What I will say and I don't think anyone can disagree, is that the overall level of expertise isn't as high as it used to be (myself included). Let me state here and now that I don't believe everyone has to be an electronics expert to enjoy the hobby and meet the licensing objectives. I do, however, believe in a modicum of knowledge that protects both the operator and their equipment from themselves.

As to my own experience, I started in the hobby with a Tech plus license. I found myself with a ticket, and a lot of questions. I took my General in an effort to learn more about radio, primarily, and to extend my privileges; secondarily. And guess what? After the exam I still had a lot of unanswered questions. So I began the study for Extra.....and I still have a lot of questions.

All the way along my road to Radio Mecca I have had questions. Questions about new things, questions about old things, questions about things I should have known. I might have given up long ago in this hobby had I not had help with answers to my questions. My help came to me via my Elmer. Which brings me, long path, to my subject and the new program? We have instituted an Elmering program.

Realizing that everyone has busy lives, and that there are many more modes than there used to be, we've changed the Elmer model a little. We now have what we call Topic Elmers. In January we passed around a list of Elmering subjects. We asked amateurs to help by adding topics and their names in the areas where they felt competent to Elmer someone else. Since not everyone can make it out to meetings, I am writing to you to ask the same. You may be one of the amateurs who enjoy the club, but for whatever reason are unable to make it to the meetings. Should you like to contribute to the club and the hobby, here is a way. Included in this issue (pg 5) is a compiled list. Please look over it carefully. If there is an area missing from the list please let me know. If there is an area you are particularly comfortable in and would like to be available as an Elmer for, please let me know also. The final list will be distributed in hard copy and put on the web page.

So, I will continue my challenge from last month. How can you help return to the hobby what the hobby has given to you? Will it be by picking up one of the areas we are not participating in currently? Will you Elmer someone? Will you take the opportunity to learn about something new this year?

Let me know. I would love to know more about what is going on with you and the hobby. I am very receptive to ideas. Please don't hesitate to contact me if you have suggestions. I can be reached at home at 298-5399 or via email at n7kg@arrl.net

73 de N7KG Brett

February Meeting

Gordon Smith, K7HFV

The next UARC meeting, to be held Thursday, February 6, will feature the return of one of our most popular speakers of the last several years: Tom Schiller, N6BT, President of Force 12 antennas. Force 12 is a well-respected name in world of amateur antennas.

Many UARC members may remember Tom's last visit a few years ago. He told about some of the tricks that top-notch DXers have used in contesting and DX. He also told us about the theory behind Force 12's strategy of using no traps in their multi-band products.

One interesting feature of his talk was a discussion of how antenna gain can be measured. There are several different references that can be used, and it is frequently unclear how some manufacturers come up with their advertised figures. Tom has been involved in making real-world measurements of antennas from a number of manufacturers.

Tom is able to give authoritative answers to a wide range of questions about amateur antennas.

For more information about Force 12, see <http://force12inc.com>.

The UARC meetings are now being held in Room 101 of the Engineering/Mines Classroom Building (EMCB) on the University of Utah campus. Meeting time is 7:30. An orientation meeting for newly licensed hams or those new to VHF FM is held at 7:00. Check [meeting location details](#) for maps and instructions.

Of course, even in the new location, we continue to have all the "standard" features of UARC meetings including a chance to check out the latest ARRL books from Fred the book lady, eyeball QSOs, and the chance to join ARRL or UARC. Fred is now setting up in a more convenient location, right at the front of the meeting room. Finally, there will be the "meetings after the meeting" which provide a chance to continue the eyeball QSOs over pizza or other gastronomic delights.

Why ask Why?

Alan Seyboldt, N7OI

Well, I picked up on the Microvolt editor's request for information. I decided to write an article to help the OM out. I entered this hobby because of all the things that I could learn and still am learning, for example...

I sat and wondered one day -- if I could control the desktop of one of the computers on my home network, then why couldn't I sit and be a couch potato and watch TV and run my station at the same time?

I ended up using NetMeeting to control the computer running my station radio. I now sit and watch TV and chat on PSK, on the station down stairs, I think I have invented a new low to the term "couch potato". There are many other applications to this idea if you are willing to punch a hole in your network and go outside your home, just think what you can do!

Why do I do it? Because I can! Why do others send pictures over HF or VHF? Because they can! Why do I track my car with APRS and run a Weather Station -- because I can and it is fun. Why do some go up on a mountaintop and tweak a repeater receiver so sensitive, because they can and must to make it hear our handhelds.

Your imagination is all you need to spark. If you don't know, then get on and ask questions to those you chat with over the air, buy a book and learn, or ask someone who knows more than you do. I have asked Tom (NY4I) many a question that pertains to Computers, for those who don't know Tom; he was born with a computer attached to his umbilical cord.

Others have helped me with technical questions when I have worked with older tube equipment; still others helped me with learning station construction problems. Don't feel intimidated to ask and also we need not feel that we are above giving instructions.

Other things I have enjoyed is working DX stations over the world, I have enjoyed the last couple of years. The sunspots are high and I enjoy learning when portions of the world would be coming into propagation.

I have found this to be a very fun portion of the hobby. As of late, many stations in Africa and Europe are coming in loud on the long path. Usually communications are on the short path to your desired foreign country, but in the early mornings long path can be heard from VERY long distances. Think about talking to a station short path to Europe at a heading of 31 degrees and 5600 some odd miles, now turn your station antenna to 210 degrees and do the math to Europe! What a cool hobby!

I have heard that long path exists on other bands but I have not experienced it yet. Some say that long path is the most fun mode in DX chasing because it involves the most out of your station, I just enjoy doing it because I can.

There is certainly something in this hobby that will interest everyone. Find something this next year to master. Start learning CW, you might surprise yourself and actually enjoy it. Try a new mode, get a book and learn something that will help you better your self and broaden your abilities in the hobby.

Member of the Month

Linda Reeder, N7HVF



This month we are featuring Brent House (KD7ICT). Brent has been in the hobby for two years. Ron Speirs (K7RLS) asked Brent if he would be interested in taking a ham radio class. Brent and his wife Heather took the class. Brent passed his technician test on February 29th 2000. Brent's wife Heather received her technician license in August of 2000. Her call sign is KD7KHQ. Brent and Heather have five children -- two girls and three boys. Their oldest son, Nephi and their oldest daughter, Xela took an amateur radio class for children that Ron was teaching last summer and they are working on getting their licenses. Brent is a self-employed computer consultant. He sets up networks and firewalls for his customers. He worked at the network operation center in security for the 2002 Olympic Games. Brent really enjoys field day. He logged while the author was making contacts. Brent and his son Nephi got up at 6 the next morning and had the radios all to themselves and made lots of contacts. What does Brent like best about amateur radio? He likes the electronics. He loves to learn about how and what makes things work. Brent says he is looking forward to upgrading.

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

Elmer List

Brett Sutherland, N7KG

Topic	Elmer Name
Antennas	Available
APRS	Steve Baxter - K7SRB Tom Schaefer, NY4I
Awards	Available
Circuit Design	Available
CW	Gary Openshaw – KC7AWU
DF'ing	Available
DSP	Available
DX'ing	Available
EME	Available
EMI	Available
Emergency Communications	Available
HF Contesting	Available
HF Digital	Ron Speirs – K7RLS
HF Mobile	John Hays – K7VE Brett Sutherland – N7KG
HF Propagation	Available
HF Station Setup	Dean Lang – WA9AZK
Homebrew	Chuck Johnson – WA7JOS Ron Speirs – K7RLS
IRLP	Available
License Upgrade	Available
Linux for Radio	Brent House – KD7ICT
Mountain Topping	Available
Operating Practices	Dean Lang – WA9AZK
QRP	Andrew Madsen – AC7CF
Repeater Construction & Maintenance	Available
RFI	Available
Satellite	Ron Speirs – K7RLS
Slow Scan ATV	John Hays – K7VE
Software Defined Radio	Available
Spread Spectrum	Available
Traffic Handling	Available
VHF Contesting	John Hays – K7VE
VHF Digital	John Hays – K7VE Ron Speirs – K7RLS
VHF Station Setup	Ron Speirs – K7RLS

Here is the Elmer list mentioned in Brett's column. If you would be interested in helping out to fill in a spot, please contact a UARC board Member. You can also send email to uarc@xmission.com.

Pioneer Trek Hams Weather Storms on the Trails

Brent House, KD7ICT

(Near Lander, Wyoming July 16-19, 2002) Try this recipe: First start with coarse sagebrush, mix in desolate conditions, and add 70+ mph winds that change directions 180 degrees, blow in some dust and sand, prod the entire mixture with lightning and then bake well in the sun. This is a recipe for pioneer travel in the summer.

The Hunter East Stake held a 4-day trek along the Mormon Pioneer Trail in Wyoming July 16-19, 2002. Brent House (KD7ICT) and Rulon Holyoak (AC7GR) provided emergency communications during the trek as part of the medical team. Rulon is my father-in-law and we enjoyed the challenging trek as the only two licensed radio operators. I had been asked by the Stake Young Men's President to be part of the trek and I knew AC7GR would like to go also, so I invited him to be part of my team. We walked many miles during the months before the trek to prepare ourselves. We used Rulon's GPS system to mark our path and keep track of mileage. We felt good about our physical preparations since we might have to take a quick hike up a hill to connect with a repeater in case of an emergency. My wife Heather (KD7KHQ) had also prepared and was to go on the trek as part of my team. Unfortunately, she was unable to take the trip because our one-year-old daughter Elise had sustained 2nd degree burns on both palms and forearms before the trek. Heather stayed home and nursed Elise back to health. Elise has recovered very well.

We both have Yaesu VX-5R tri-band radios and Rulon downloaded some additional frequencies from the Internet that he added to his radio profile. Once he liked the setup, we used a cloning cable to transfer the new profile to my radio. I hadn't realized until then that we could listen to the FRS channels. We established four methods of communication.

- 2-way FRS radios for communications between wards and teams.
- Amateur Band Simplex operation between KD7ICT and AC7GR.
- Cellular phone (Verizon or AT&T) for emergency calls to 911
- Find a hilltop and use Amateur Bands to area repeaters if we can't use cellular phones to call 911.

Rulon and I met with all of the Ward Medical Liaisons the week before the trek and demonstrated the proper operation of the FRS radios. Each Liaison was assigned a radio and given batteries for the first day of the trek. Each morning we would issue new batteries to each liaison. The Hunter East Stake is divided into wards, with Bishops at the head of each ward. To provide for communications by unlicensed individuals, 2-way FRS radios were both borrowed and purchased for the trek. The FRS radios work well and some models have a special call button that sends a signal to all radios as an alert. That came in handy a couple of times. The only problem we had with the 2-way radios is that one accidentally went into auto-mic mode and made communications difficult until we found out which radio it was and turned of the auto-mic mode. Each day of the trek, Rulon walked ahead of the forward handcart team with a Stake Presidency representative. I stayed at the rear, checking for stragglers and helping out with medical situations. Throughout the day, we would check in each half-hour with our amateur radios and most of the time the simplex operation worked, but over some hills it didn't succeed, even on full 5W power. By the end of the trail I had walked many miles and gained some insights. They are listed in random order.

- The pioneers could go longer without water than could the animals.
- Extra ponchos are great during storms to cover equipment.
- Cowboy hats are awesome, (note to self: buy one with string tie next time.)
- Always pack twice as many tent stakes as you think you'll need.
- Every tent needs its own cheap hammer included in the bag.
- Always pack a hammer.
- If the pioneer trail seems illogical at points, it's because they needed to keep close to water.
- South Pass has 2 sides: one is where the Sweetwater eventually flows into the Gulf of Mexico; the other is the Pacific Ocean side.
- One 12 Volt 10Ah battery can be used to charge the Lithium Ion 7.2 Volt 1100mAh battery on my Yaesu VX-5R. That meant not having to buy extra batteries at \$50 each. Thanks to Ron (K7RLS) for the batteries.

- Wear a bandanna under your cowboy hat.

We enjoyed the trek a lot and both said that we would like to do it again in the future. It's a good feeling to use our ham radio skills to benefit our communities and to give the youth an opportunity to see that much of amateur radio is about service. We endured some of the same weather and road conditions the pioneers did; even had the 70+ mph winds near Rocky Ridge and it blew many tents down. Our little tents stayed up, though, and we were glad.

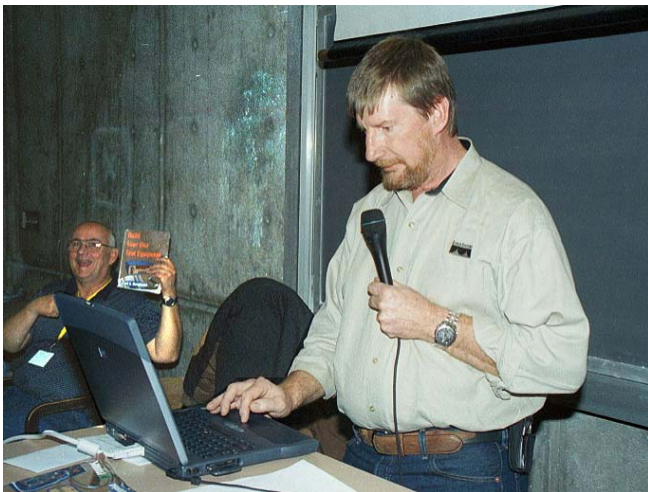
Brent House KD7ICT

January 2003 Meeting

Tom Schaefer, NY4I

At the January Meeting, Mark Richardson (W7HPW) and Jon Utley (K7CO) discussed the Internet Repeater Linking Project (IRLP). IRLP is a system which allows interconnecting repeater systems through Internet connections. **Unlike other systems, you do not need a computer to access an IRLP-linked repeater.** You only need to be able to access the repeater just as you would for a local conversation. The repeater itself is linked to the Internet. This is very similar to a system such as the Snowbird system where the repeaters are linked, and you access any linked repeater with a single radio.

Mark explained how each IRLP system is called a Node.



Mark, W7HPW, demonstrating IRLP



Mark (W7HPW) and Jon (K7CO) at the January Meeting

Nodes can be connected to each other in a one-to-one relationship, or they can be connected to a super node called a reflector. A reflector allows many nodes to be connected to each other.

Mark also mentioned that UARC is in the process of installing an IRLP node on the 146.76 Lake

Mountain repeater. Use of the IRLP system will be controlled by control codes and will be limited to members of UARC. Yet one more reason to be a member of the club!

For more information regarding IRLP, please consult the IRLP website at www.irlp.net.

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Bob Wood, W7OAD
UARC Member

Contesting with the Buffalo

Ron Jones, K7RJ

On the weekend of January 18th, Dale (WJ7L) and I put the club call, W7SP, on the air for the January ARRL VHF contest. We set up on Antelope Island with gear for six different VHF/UHF/Microwave bands; 6 meters, 2 meters, 220 MHz, 432 MHz, 1296MHz and 10 GHz. The contest started at noon on Saturday and went through to 6 PM on Sunday, but we worked as W7SP for Saturday only. We decided to rough it this year by operating from my camper van. We put up three masts loaded with various beams and dipoles. Many of the antennas were home brew beams built by Dale. I built the 6 meter rotatable dipole. We had a couple of IC-706MKIIG's for 6, 2 and 432 and an old crystal controlled rig for 220 FM. For 1296 Dale fired up his TS-2000 and Down East Microwave 1296 converter. The 10 GHz gear was homebrew gear built around Gunplexers feeding into an 18 inch digital satellite dish, which, it turns out, we did not need. I don't know which was more fun, operating the contest or setting up the gear.

We did OK in the contest. We made about 40 contacts, which pretty much amounts to working everyone who was on the air for the contest on Saturday! We worked all the local grid squares. We stayed plenty warm; it was a beautiful day out on the island on Saturday. As soon as the sun started to set, and we started taking our station down, it got cold very quickly -- funny how it does that in the winter.

We would like to see more activity besides repeaters on the VHF bands. There is a great group of active hams on VHF using SSB and CW. There is a Monday night 2 meter SSB net on 144.250 at 9:00 PM. Right now we have guys working on microwave gear, building up moonbounce stations, working satellites and chasing meteor scatter and other exotic propagation modes and soon we will have a couple of laser stations trying to work each other. Contests bring us together and give us an excuse to fix up our broken gear and get a lot of signals on the air so we can more easily check out our station.

Upcoming Testing Sessions

Date	Location	Contact
2/1/2003	Salt Lake	Gordon Smith 582-2438
2/12/2003	Mantua	Jim Jones (435) 730-1311
2/19/2003	Provo	Steve Whitehead 465-3983
2/19/2003	St. George	Ronald Sappington (435) 673-4552
2/25/2003	Salt Lake	Eugene McWherter 484-6355

UARC 2002 Financial Statement

Chuck Johnson, WA7JOS

<i>INCOME</i>	
Advertising	\$ 200.00
ARRL Dues Coll	\$ 642.00
Book income	\$ 6,373.06
Classes income	\$ 175.00
Donations	\$ 189.00
Dues	\$ 6,032.00
Int Inc	\$ 101.01
Other Inc	\$ 886.00
Steak fry	\$ 518.00
TOTAL INCOME	\$ 15,118.24
<i>EXPENSES</i>	
Administration	\$ 210.12
ARRL Dues Paid	\$ 563.00
Books	\$ 4,475.41
Club Meetings	\$ 186.07
Field Day	\$ 859.17
Ham Hot Line	\$ 340.14
Insurance	\$ 365.00
Microvolt	\$ 4,368.63
Repeater	\$ 647.41
Special Event Station	\$ 322.99
Steak fry	\$ 1,187.26
Storage Shed	\$ 1,270.00
TOTAL EXPENSES	\$ 14,795.20

As you can see, we do tend to "cut it close" each year. Your support of the "Book Lady" and continuing to help recruit new members will ensure UARC can continue to provide all the benefits of membership you have come to expect (Ed.)

Thanks to Ron, K7RLS

The Editor would like to thank Ron (K7RLS) for his tireless work in taking the photographs of UARC. Most of the pictures you see in this publication are taken by Ron. Thanks for a job well done!