

On the Shoulders of Giants



Can you name these pioneers? Answers to follow...

Volume XLIV Issue 2, February 2000



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 Bonneville Medical Building located at 1255 East 3900 South in Holladay, across the street from St. Marks Hospital.

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, KD7APW, 7546 S. Uranium Dr., West Jordan, UT 84109. 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 (wmgooch@concentric.net), but other means including diskettes and typewritten submissions can be mailed directly to: Manford Gooch, 6344 S. Shenandoah Park Ave., Holladay, UT 84121. 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. □

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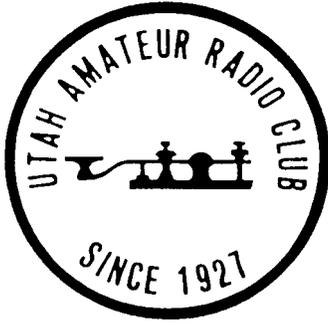
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For late breaking news listen to the UARC Information Net Sundays at 21:00 on 146.62 or set your browser to:
www.xmission.com/~uarc/announce.html □

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The Microvolt

The Official Publication of the Utah Amateur Radio Club, Salt Lake City, Utah

Volume XLIV, Issue 2, February 2000



QST From The Prez

On December 30, 1999, the ham radio community received the restructuring plan from the FCC. Many of us were very surprised and disappointed about the changes, especially the new code requirement of only 5 wpm. The new plan is a terrific opportunity to upgrade and enjoy more privileges, but it is also an awesome responsibility for **all** of us. Ham radio operators have always been highly respected all over the world. We are the ones who rush to help in all sorts of emergencies, public service, and many other ways; all without compensation.

We are very fortunate in this area to have many fine and dedicated hams in **all** license classes. It will be up to us, individually and collectively, to keep the reputation we have earned over the years. The main reason for our club's existence is to meet together each month and to share our love for, and knowledge of, amateur radio. I believe that alone helps us to keep and build our pride in the hobby.

Our January meeting was a great success. We learned about traffic handling. If you haven't been to a meeting lately, give it a try. In February, we are meeting at the STATE EMERGENCY OPERATION

CENTER, behind the capitol building. That should be very interesting and educational as well.

This is going to be a great year for the club. We will see you there.

Thank you and 73's,

Maurine Strecktenfinger K7HOZ □

An Open Letter from the Editor

Your new editor is grateful for the opportunity to serve the club in this capacity, but he will need considerable patience from the membership, most of whom he does not yet know, as he "learns the ropes". The readers of this newsletter should know that there would not have been an issue for January if other members, probably many whose contributions were unknown to your Editor, had not pitched in to create one. I am particularly grateful to Tom Schaefer NY4I, Gregg Smith KD7APW, and Gary Openshaw KC7AWU.

In the coming months, your help in generating articles for the *Microvolt* will be greatly appreciated while I try to master this new software. Articles and photographs or drawings can be mailed to Manford Gooch AB7PM at 6344 S. Shenandoah Park Avenue, Salt Lake City, UT 84121 or via e-mail at wmgooch@concentric.net □

Featured Member Of The Month

Our UARC featured member of the month is Rick Williams, W7HBL. Rick, who lives in Sandy, was first licensed in 1956, enjoys DX'ing and working on older amateur gear. He has put together a Johnson station, which was also one of the first radios he operated. Rick's current project is to setup his Kachina remote-controlled HF radio so he can operate it from remote locations like his cabin. He has been a member of UARC on and off throughout the years. When asked why he came back the last time, Rick said "I like what people do [in the club], and I like to support them". Rick is married with six children and seven grandchildren.

Professionally, Rick is an organizational psychologist. He has written seven books and holds a Ph.D. from Oxford University (Yes, the one in England). Interestingly enough, Rick was knighted when he was in England. It seems that if one works hard enough to get a 4.0 grade point average in the Ph.D. Program at Oxford, one gets knighted. So, if England ever gets attacked again, you can expect Rick to set sail for England (HF rig in hand)! That goes to show that success in school can lead to all kinds of things.

We thank Rick for being a member of the club, and we look forward to seeing him at our club meetings.

Tom, NY4L

February Meeting

Our new program chairpersons have arranged a special treat for the monthly UARC meeting to be held Thursday, February 3. The meeting will not be held at the usual place, but will be held at the State Emergency Operating Center (EOC) in the State Office Building.

Finding the correct building and entrance is a possible problem. The State Office Building is the four-story building immediately behind the state capitol. Park (if possible) just west of the building and look for a ramp that heads downhill just north of the building. It has the appearance of a ramp to a loading dock. Just walk down the ramp; don't drive down and park, as space is very limited.

Gaining entrance to the building is also a potential problem. A special security procedure has been set up for the evening. Take your two-meter handheld

radio along and set it on 146.52 (the national simplex frequency). There will be a several digit code posted on the door. Simply key in this code on your DTMF pad while transmitting on '52 of course, you should identify legally. If you don't have a two-meter H-T, just wait for someone who does (best to be on time).

February will be a unique opportunity for the club members to see the inner workings of the Utah State Emergency Operations Center. You may have seen video clips of the EOC during the Y2K operation on December 31st, but the clips didn't do justice to the capabilities of the EOC.

The meeting will be February 3, 2000 at 7:30 p.m. at the State Emergency Operations Center in the State Office Building behind the State Capitol. The newcomers' meeting will begin at 7:00 p.m. Since some newcomers may not have handhelds, there will be someone to let them in the secure door.

Brent Thomas AC7H, the State Communications Officer for the Division of Comprehensive Emergency Management (CEM) will make a presentation in the State Office Building Auditorium. The auditorium is located on the first floor of the State Office Building north of the state capitol. Since the actual EOC is located in the basement of the State Office Building and only provides seating for 40 people, we will tour the EOC in groups.

After touring the EOC we will go down the hall to the radio room where Brent and the amateur radio operators handle traffic and monitor various frequencies. If you, as a radio operator, are asked to support CEM during some crisis or event, the radio room is where you report.

Since we will not be meeting at the Doxey Hatch building in February, please let your friends know the meeting will be at the State EOC. We will resume the "Elmer Hour" at the March meeting when we meet again at the Doxey Hatch building.

For January's "Elmer Hour", Kenneth Imby, KI7SLC, brought his service monitor and checked over thirty handheld radios for deviation, output power, and other characteristics. Ken has agreed to bring his service monitor to the meetings to help us keep our rigs operating at optimum levels. Ken does some traveling, so check on the website or 146.62 to see if he will be at the "Elmer Hour" you are planning to attend. - Dick Abbott, K7MZ

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Bob Wood W7OAD, UARC Member

July 15: Steak-Fry

The date for the annual steak-fry is now firmly set as July 15. Area 7 was already reserved, so it was necessary to reserve Group Area 2. This is important because the new site holds only 100 people instead of the former 150. While this capacity is probably adequate, based upon previous attendance, it is a good idea to plan to reserve your space early, since ticket sales may have to be restricted. Additional details will be forthcoming as the date approaches. □

Contesting Calendar for February 2000

Vermont QSO Party	0000Z, Feb 5
New Hampshire QSO Part	0000Z, Feb 5
YL-OM CW Contest	1400Z, Feb 5
YL-OM Phone Contest	1400Z, Feb 12
Fists CW Club Novice Roundup	0000Z, Feb 12
Winter Fireside SSB Sprint	2000Z, Feb 13
CQC Winter QRP QSO Party	2200Z, Feb 27

See www.contesting.com for details. □

Who is this Elmer Anyway?

As everyone in the area knows, I am just a bit active in the digital mode called APRS. But, at the last club meeting, someone asked me why I do APRS? We chatted a bit about the advantages of tracking my vehicle and the emergency applications. We also discussed some of the challenges involved in setting up the packet network and the Internet connections.

But most of all, my answer was that to me, APRS is fun!

This article is not an article about APRS. I take this opportunity to discuss why any of us do anything in this hobby. Why do we spend hundreds and often thousands of dollars on equipment as well as many hundreds of hours dedicated to a hobby that, to some, is just a passing nicety. In a word, it is fun! Of course, it is also educational, exciting, challenging, and interesting, but if it were not fun, I think many of us would not bother.

To understand why people get into this hobby, it helps to understand why they continue to be active. Personally, I was interested in radio from a communications standpoint. I was a CB radio operator when I was 13 years old. It seemed interesting, and I liked putting up my Radio Shack antenna on the roof of the apartment building in New York. When I got to high school, there was an announcement about an amateur radio class after school. It sounded great. Without a clue how I was going to get home, I went to the meeting. I started studying for the novice test and learning Morse code.

The point is that I became a ham because I really enjoyed doing it -- just that -- "becoming a ham". I enjoyed putting antennas together and trying to learn enough to work on my projects. When opportunities came up to help with ARES or putting up antenna towers for other people, I was always there. Come to think of it, I never missed an antenna party (I think it was the mandatory pizza at the end!). I started contesting when I was in high school. Why? I have no idea. But the thought of staying up all night trying to work people seemed fun! Never in all of these escapades, did amateur radio become a chore. It was, and still is, something I could do 24 hours per day, 7 days a week. I truly never tire of it.

I recount this autobiography to illustrate a point. I became an amateur radio operator, not because someone asked me to or because I had to. I became a ham because I wanted to! Amateur radio is a contact sport. Sure, you can treat it as something that is there for you to use only when called upon, or you can decide that it is something that you choose to do and, therefore, to do well. I do not suppose that anyone chooses to do a job they are simply not any good at. But, were they always good at it? Surely, something must have motivated them to become good at what they do. We are all busy people. I, perhaps too often, have made time for amateur radio rather than other

things I should have been doing. It is hard to explain how even hams who are busy always find time to work on the projects necessary to fully enjoy amateur radio.

Amateur radio is a great thing. Just think, our government trusts us with our free speech rights enough to allow us to freely communicate with each other with few limitations. We send our signals out with the trillions of radio signals to be detected at the other side of the world by a receiver that must pull the signal from the masses. That is an amazing thing!

Now, if you became a ham simply to talk to your spouse, I am not excluding you. Listening to the repeater, I often hear people say "Well, I'm not technical". You do not have to have an engineering degree to enjoy this hobby. However, you must enjoy the **idea** of amateur radio. Get involved. If you do not know how to build a dipole, ask! When you hear about antenna projects at the Red Cross or at another ham's place, get on the repeater and offer to help. It is perfectly acceptable to go and help even if you do not know a thing. How else would you learn? Besides, you do not think the rest of us automatically knew how to do all this stuff when we passed our tests, do you? Amateur radio is cheapened and done a grave disservice by those who use the radio only to tell their spouse when they will be home. There is more to it than that!

If amateur radio is to survive, it must have people that are enamored with the idea of amateur radio. I remember one high school teacher that said he wanted a ham license just so he could save on long distance calls to his family in the Midwest. One of my elmers, Marion W4AFC, tried to discourage him from getting into the hobby if only for that reason. This person could have become a good ham, as anyone can, but what he really wanted was a cheap phone service, not something he could enjoy just for the sake of it. So, I close by leaving you with a call to action and a challenge.

On a sheet of paper, list five things you would like to do in amateur radio, but have absolutely no clue how to do. By the way, you can do this if you have been a ham for 50 years or 50 minutes. After each item, write the name of a person that can help you. If you do not know of a person, at the next UARC meeting or via some other means, ask. Someone will tell you who you can ask for help. Call that person and tell them you want to learn something about it. Just in case you need some ideas, here is a brief list of things

most hams have not tried: satellites, RTTY, APRS, PSK31, slow-scan TV, ATV, ARES net control, traffic handling, repeater maintenance, MARS, volunteer examiner, QSL manager, contesting, 9600 baud packet, moonbounce, meteor scatter, 2m SSB, DXpedition, QRP, QRPp, DXCC. (If you do not know what these letters mean, consider that item one on your list!) Make the list and give yourself a year. At the February 2001 UARC meeting, we will go down the list and ask who accomplished their goals. Please make sure you are on the agenda. The most important part of this is to find someone that is already doing it. Far too often in amateur radio today, people get involved by buying the question book, memorizing it, and then buying a radio. If you did it this way, you missed out. Plain and simple, you missed out on the best part of ham radio. The elmer! The elmer is the person who shows you the ropes. In this exercise, you have to have an elmer. If you have trouble finding someone that can help, let me know, and we will learn together.

Please bear in mind that it is not my purpose to offend. If I have offended anyone, please accept my apology. I feel very strongly about ham radio and it saddens me that more people do not get the same level of enjoyment out of it. Please make the effort to get with someone and learn 5 new things this year. I promise you will be glad you did.

73, Tom Schaefer, NY4I□

FCC Restructures

As our President notes in her column this month, beginning April 15, 2000, there will be only three license classes: Technician; General; Amateur Extra. In addition, there will be a single Morse code requirement of 5 WPM.

Clearly, the altered code requirement will generate considerable discussion in the amateur community. In issuing the Report and Order which details the new licensing structure, the FCC said, "We believe that an individual's ability to demonstrate Morse code proficiency is not necessarily indicative of that individual's ability to contribute to the advancement of the radio art." In addition, the FCC said that its actions "would eliminate unnecessary requirements that may discourage or limit individuals from becoming trained operators, technicians, and electronic experts." One effect of elimination of the 13 WPM and 20 WPM code requirements is that the often controversial physician certification waivers for

those claiming physical disabilities will no longer be necessary.

No new Novice or Advanced licenses will be issued after the effective date of the changes, but there are no plans to automatically upgrade any existing operating privileges. However, beginning April 15, individuals who qualified for Technician class prior to March 21, 1987 will be able to upgrade to General class by providing documentation of that qualification, paying an application fee, and completing FCC Form 605. Otherwise, current licensees will retain all current operating privileges and will be able to renew their licenses indefinitely. While Technician and Tech Plus licensees will be combined in a single "Technician" licensee database, those documenting having passed the 5 WPM code test will retain their current Tech Plus HF privileges.

The ARRL's petition to "reform" the current Novice and Tech Plus subbands to higher class licensees was not granted by the FCC. In denying the petition, the agency observed that there was no consensus within the amateur community concerning the disposition of these frequencies, and it encouraged the attainment of such a consensus.

Under the new structure, there will be four examination elements:

- Element 1: 5 WPM code exam
- Element 2: 35-question Technician exam
- Element 3: 35-question General exam
- Element 4: 50-question Amateur Extra exam

A revised Amateur Radio question pool for the new exams could be available by the time this edition of the *Microvolt* is distributed. According to the chairman of the National Conference of Volunteer Examiner Coordinators' Question Pool Committee, Ray Adams, W4CPA, a Technician class syllabus has already been drafted and approved. The revised question pools will follow the established format. Current Amateur Radio study materials remain valid at least until the effective date of the new rules: April 15. Additionally, advanced class licensees will be authorized to prepare and administer General class exams. □

Examination Schedule for February

02/05/2000 (Sat.) Salt Lake City
Contact: Gordon Smith, K7HFV
Phone 582-2438; 534-8116

02/09/2000 (Wed.) Mantua
Contact: Niko Takahashi, AA7OL
Phone (435)512-5919

02/16/2000 (Wed.) Provo
Contact: Steve Whitehead, NV7V
Phone 465-3983; 225-5200

02/29/2000* (Tues.) Salt Lake City
Contact: Eugene McWherter, N7OVT
Phone 484-6355

*Only Novice and Technician elements (1A,2,and 3A) given at this session

For more detail either call the contact or refer to the information on the UARC webpage
<http://www.xmission.com/~uarc> □

UARC Jackets and Hats Now Available

Official Club apparel is now available through Joe Flurer, KD7EGY, owner of Custom Design Marketing.

Hats are available with the UARC logo for \$10.65. If you add your call sign to the back of the hat, the price is \$13.85. Jackets with the UARC logo on the back and your call sign on the front are \$48.92. If you add a small UARC logo to the front, the price is \$52.11. Golf shirts are also available with a small UARC logo on the front for \$28.71. All of the above prices include sales tax. You can order your apparel at club meetings or by contacting Custom Design Marketing, 6049 S. Highland Drive, 278-5258. REMEMBER... a portion of all sales goes back to the Club to support the repeaters. Wearing the apparel also helps promote the Club. □

Tigger's Corner

Twentieth Century Reflections

As we start a new century, I ponder the events and innovations of the last 100 years, and realize I've been around to see some really neat historical events and innovations in the last 41 years. There's so much that has come of mankind's ingenuity, it would be impossible to list it all without leaving something out. When the twentieth century began, transportation was limited to steam or horsepower, (Ford had been experimenting with "autos" for only 6 years.) Edison's incandescent lamp was barely 21 years old, Salt Lake City had been settled for 53 years, the transcontinental railroad was 31 years old, the Wright Bros. wouldn't achieve flight for three years, and communication was by primitive wirelines, either telegraph or early telephones. Radio as we know it today was still a laboratory curiosity then, the stuff of science fiction. As I understand history, forms of "wireless" communication did exist in experimenter's labs, limited to short range dits and dashes. By using tremendous transmitter power those early "experimenters" were able to develop "wireless" to the point that it became usable for long range communications. Those first signals would have been generated by a crudely tuned spark transmitter and receiver at a distance by a really poor Carborundum detector or coherer. The early 20th century was a time of unparalleled invention in human history. It was a time of prodigious inventors working in "invention factories". There isn't a great deal of difference in the "mission" of these inventors and their supporters over the last hundred years. Whether it be Thomas Edison's Menlo Park facility that would spawn the company we now know as General Electric, or Micron or Intel today.

Reflecting upon past history one point became clear; all the great inventions we enjoy today really aren't the product of one man's imagination and ingenuity. Inventions are really a product of many different people independently applying their expertise to improve the same product time after time. Every one of the great inventors of the last hundred years wouldn't have been able to create his invention without the successful inventions of those who came before him. Here's an example; Edison, while trying to solve the puzzle of light bulbs blackening with age, puts a metal plate inside a light bulb. He observes that a current flows when the "plate" is connected to the positive terminal of the battery powering the filament. (He also observes that it stops flowing if connected to the negative terminal.) He doesn't recognize a use for this phenomenon he called the "Edison Effect". And

when this doesn't solve the problem of bulbs blackening with use, he mothballs the experimental bulbs.

Remember the poor quality of the available RF detectors mentioned earlier in this feature? Well so did J.A. Fleming, and he had heard of Edison's Edison Effect bulbs. He visited Edison's labs, and was able to get one of the bulbs from him. He had an idea that the "Edison Effect" (rectification), could be used as an RF detector more successfully than the mechanical detectors of the day. He was right, it worked better than anything previously used before -- making longer range communication possible. He called his version of Edison's lamp a "Fleming Valve".

This worked for a while until another man realized that even with a good detector there were limits to what the receivers of the day could "hear". That man was Lee DeForest. He placed a bent wire "grid" between the filament and plate in a successful attempt to control the flow of the "Edison Effect" current (electrons) through the bulb (tube) and made the "light bulb" that Edison invented, and Fleming applied to radio, amplify. DeForest called his version of Edison's "light bulb" an "Audion".

Up to this point in time, transmitters were using electrical arcs to generate radio frequency energy. They weren't very efficient, generated broadband signals, and were limited as to how high a frequency could be successfully generated. There were some successful attempts with steam driven alternators to produce RF, but they weren't practical because at the ungodly speeds they had to be spun, they sometimes flew apart and exploded.

About this time in history another brilliant man would add his expertise to the problem of generating RF energy. That man was Edwin Armstrong. Over his lifetime, he would influence the field of radio probably more than anyone else before him. Armstrong had a theory that he could take DeForest's three element amplifier bulb, feed a portion of its output back into its input, and make it produce a continuous signal, or "oscillate". From his work came not only improved "regenerative" detectors, but also compact, stable, efficient transmitters, and new selective receive designs still in use today.

I realize this little history lesson gets a little long, but it gets the point across. Imagine, without Edison's light bulb experiments, radio as we know it might not have been developed. Without radio, we wouldn't have had the economic incentive to fuel

the development of modern electronics. Modern solid state devices probably wouldn't be here today if someone hadn't been trying to engineer rugged, efficient solutions to the shortcomings of the amplifying tubes (light bulbs), developed earlier in the twentieth century for radio. Without those early experiments with solid-state devices, we wouldn't have transistors and integrated circuits that make practical computers possible today.

So, in effect, if Edison hadn't been successful in inventing the incandescent light, men probably would not have been able to walk on the moon 90 years later. Far fetched? I don't think so.

Our modern state of the art electronics are traceable to those early electrical pioneers. Each one building upon the work of the others. Think about it. Points to ponder.

Happy New Year 2000

C'ya KA7TGR□

W7BBN, Silent Key

John Major Scowcroft, a good friend, passed away on December 11, 1999. John had been a ham operator for over 55 years, holding the call W7BBN. Years ago his encouragement and enthusiasm was instrumental in setting my desire to get my own commercial license and ham ticket. I owe a lot to him, his knowledge, expertise and kind willingness to teach others what he knew will be missed by everyone who knew him. We'll miss you John, '73. - KA7TGR□

Club Station Adds Beam

[1-18-00]

UARC's club station now has a tri-band beam -- just in time for anyone who would like to work the Myanmar DXpedition. On Saturday, January 15, N7OI, KC7UBP, NY4I, and N7SWP were able to erect the club's Cushcraft A4 beam despite assistance from the author, K7HFV. The tri-bander (for 20, 15, and 10 meters) now sits atop the four-story Red Cross building. It is expected it will remain available there until Field Day or when the landlord notices, whichever occurs first.

For anyone interested in working the Myanmar group, it will be possible to open the station the next several Saturday afternoons. Anyone interested should send e-mail to uarc@xmission.com. Mention the time you would like to operate. That will help the station manager assess how much interest there is and schedule everyone in a way that avoids conflicts.

The club station is located at the American Red Cross chapter at 465 South 400 East in Salt Lake City. It is maintained jointly by UARC and Salt Lake County ARES under an agreement with the Red Cross.

UARC 1999 Financial Statement

INCOME

Advertising	143.00
ARRL Dues Collected	419.00
Book income	6,770.59
Donations	325.25
Dues	8,022.00
Interest	362.10
Steak fry income	430.00

TOTAL INCOME 16,471.94

EXPENSES

Administration	40.80
ARRL Dues Remitted	344.00
Books Purchased	4,176.83
Capital:	
ATV Repeater	198.59
Scott's Hill	1,070.35
MFJ Analyzer	229.90
TOTAL Capital	1,498.84
Club Meetings	26.91
Field Day	577.16
Grants	15.00
Mailing	194.95
Microvolt	6,399.10
Repeater	1,239.10
Steak fry	1,313.09
Sales Tax on book sales	404.41

TOTAL EXPENSES 16,230.19

TOTAL INCOME - EXPENSES 241.75

UARC Member Survey

Please remember to fill out the UARC membership survey from last month's Microvolt. It is very important that we get a good sampling. The future of the club will be determined with input from this survey. Please mail it to the address on the form, or bring it along to the club meeting. The results of the survey will be published in a future Microvolt.

UTAH HAMFEST 2000

ARRL UTAH STATE CONVENTION

Ruby's Inn - Bryce , Utah

July 7, 8, 9, 2000 (Friday, Saturday & Sunday)

Ruby's Inn - Bryce , Utah (1 mile north of Bryce Canyon)

Visit the following Web sites for more details: WWW.utahhamfest.org, WWW.RubysInn.com

Mark your Calendars now; Publish this flyer in your Newsletters; Announce at Club meetings;
Copy for widest Distribution; Utah Hamfest needs your support; Success = More Utah Hamfests

Activities Include:

- Dealer and Swap Meet Areas
- Seminars and Forums
- Women's and Children's Events
- Contests:
 - Hi Speed CW, Low Speed CW, QLF
 - Mobile Installation
 - Transformer Toss (a new method)
 - Transmitter Hunts (a new challenge)
- Prize Drawings
- Wouff Hong
- Radio/Antenna Testing and Evaluations
- Amateur License Exams

Utah Hamfest

P.O. Box 382

Bountiful, Utah 84011-0382

Web Page: WWW.Utahhamfest.org

- Swap spaces available with paid registration
- Tail gate spaces \$5.00 with paid registration
- Swap Tables \$5.00 with paid registration

Accommodations:

Ruby's Inn Special Rates prior to June 7
2 Queen Beds \$75, Lodge across street \$50
Contact: Keith in Group Sales

Ask For Special Utah Hamfest Room Rates
Call: 1-435-834-5341 Ext. 7222

RV/Campground: 435-834-5301 Fax 435-834-5481
Full Hookups Start @ \$22.50 + Tax
Electric & Water Start @ \$21.00 + Tax
Tent Spaces Start @ \$14.50 + Tax
Tipi Rental Start @ \$21.00 + Tax

Registration Information:

Adult (18 and over) \$7.00 Before June 7th
\$10.00 at the door (No mail-in after June 7, 2000)
Youth (17 & Under) \$3.00 before June 7th
\$5.00 at the door
(Youth registrations eligible for youth prizes only)

----- Please clip here and mail. Don't miss this hamfest!-----

Please Print

Name: _____ Callsign: _____ Email: _____
 Address: _____ Phone: _____ - _____ - _____ VE Exam Y/N _____
 City: _____ State: _____ Zip+4 _____ - _____
 Number of Adults: _____ X \$ _____ = \$ _____
 Number of Youth: _____ X \$ _____ = \$ _____ (17 & under)
 Breakfast Buffet: _____ X \$ 8.00 = \$ _____
 Swap Meet Table: _____ X \$ 5.00 = \$ _____
 Swap Meet Tail Gate: _____ X \$ 5.00 = \$ _____
 Total: = \$ _____

Names of Additional Attendees:

 Callsign: _____ VE Exam Y/N _____

 Callsign: _____ VE Exam Y/N _____

 Callsign: _____ VE Exam Y/N _____

 Callsign: _____ VE Exam Y/N _____

Mail-ins: Check or Money orders Payable to: **Utah Hamfest @ PO Box 382 Bountiful, UT 84011-0382**
Must have names and callsigns (if applicable) of all registered attendees.