

Salt Lake Tornado & Riverdale Mud Slide: Hams Save the Day!



Photo: KSL TV

The Salt Lake Tornado of August 11, 1999, and the Riverdale flood/mudslide of July 11, provided local Hams with tremendous opportunities to be of service to their community and State.



Photo: Russ Harmon, KC7WVQ

Volume XLIII Issue 9, October 1999



The MICROVOLT

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U.A.R.C.
c/o Russell Smith
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Salt Lake City, UT 84109

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THE MICROVOLT (USPS 075-430) is published monthly except August for \$15.00 per year or \$1.50 per issue by the Utah Amateur Radio Club, 3666 South State Street, Salt Lake City, UT 84115-4848. Periodicals Postage Paid at Salt Lake City UT. POSTMASTER: Send address change to "The Microvolt", c/o Russell Smith, 2493 South 17th East, Salt Lake City, UT 84109.

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 Doxey-Hatch 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: Russell Smith, KC7ZDZ, 3267 East 3300 South #115, Salt Lake City, 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 following repeaters: 146.62 (-), 146.76(-), and 449.10. 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 Santaquin to Lehi) and the Salt Lake City exchange (covering Draper to Layton). The 449.10 repeater has autopatch facilities into Salt Lake City only. 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 information, testing, meeting information, 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 (bbergen@xmission.com), but other means including diskettes and typewritten submissions can be mailed directly to: Bruce Bergen, 3543 Fieldstone Cir., SLC, 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: Russell Smith, KC7ZDZ, 3267 East 3300 South #115, Salt Lake City, UT 84109. □

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□	

Contents

Prologue	2
UARC 1999 Board & Committees	2
QST From the Prez	3
Featured Member of the Month	4
Candidate for Editor Sought	4
Salt Lake Tornado	5
Ham Radio Saves the Day	6
The Shortest Route	6
Amateurs Respond to Utah Tornado	8
A Blast from the Past	10
DCARC Members Aid Flood Victims	11
VHF PL Tones	11
Scott's Hill Report	13
Special Edition now Available	14
Tower Party	15
Test Schedule	16
Next Month's Meeting	16
Color Country Hamfest	16

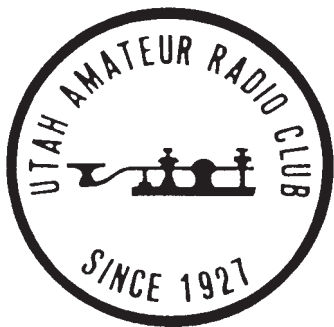
For late breaking news listen to the UARC Information Net Sundays at 21:00 on 146.62 or set your browser to:
www.xmission.com/~uarc/announce.html □

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The Microvolt

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Volume XLIII, Issue 9, October 1999



Photo: Ron Speirs, KC7MYS

From The Clipboard Of The Vice-President

It's been a great year, and it's not over yet!

We've had a great Field Day and Steak-Fry; Bruce has produced a great newsletter; progress has been made on the new repeater and the club station. The nets and repeaters seem to be running smoothly. And we still have Homebrew Night to look forward to.

But there's another event yet to come that might be more important than all the others put together. We still have elections. The key to having a good year 2000 is finding a good group of leaders to make things happen in the coming year.

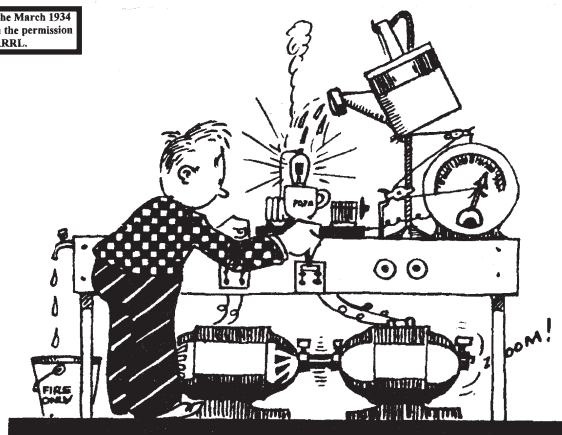
We've found volunteers to run for many of the posts,

but the positions of Editor and Assistant Editor are still without candidates. We hope you can help. With a 600-member club and attendance at a typical meeting of about 100, we can see that *The Microvolt* is the only way we have of communicating with a majority of the members. Bruce is ready to retire after a very successful two years, so it is vital that we find someone to carry on this most important job.

So give us a hand. Do you know someone who can write well? Do you know someone who has a good sense of what is going on in the amateur community and what needs to be reported? Better yet, are you such a person? If you have any ideas, be sure to get in touch with our President, Gary Openshaw, KC7AWU, at 484-3407. He is waiting for your call. He likes to go to bed early, so don't keep him up late.

73 - Gordon - K7HFV □

Reprinted from the March 1934 issue of QST with the permission of the ARRL.



Featured Member of the Month



Photo: Ron Spellis, KC7MYS

Allan Arveseth, KB7WVR, this month's featured member and his XYL, Mary Lou, KB7ZWN.

Amateur Radio has been a life long interest of Allan Arveseth, KB7WVR, this month's featured member. As with many though, the code kept him away for a long time. Allan had worked seven years in radio communications for the US Air Force and with the LDS Church for eight years.

Seeing a need to establish emergency communications within their LDS stake, Allan, his son, and his friend's son decided that amateur radio was the best way to accomplish this task. Allan took this project seriously and got to work. In August of 1993 Allan obtained his Technician plus license. In September of that same year he received his General and then the next month, October, he received his Advanced class license.

As soon as he was licensed he began teaching amateur radio licensing classes. Over the last few years he has worked with quite a number of other stakes. It seems that he is very much in demand since he will only teach where a large group is committed to pursuing the goal of a Ham license. Incidentally he is teaching another class which started September 23rd..

Allan and his wife Mary Lou are currently serving a stake mission in communications for the LDS Church. Mary Lou has her Technician plus license with the call of KB7ZWN. They are the parents of four children: three boys and a girl. Their son, Mike, also obtained his Technician license (KB7YER) in 1993.

As if being an active member of UARC, VHF Society and ARES is not enough, he is also in charge of the Emergency Response Radio System (ERRS-VHF) an organization sponsored by the LDS Church, with the purpose of teaching radio amateur operators how to

handle emergencies.

With all the modalities available to him he still seems to enjoy and prefer 2 meter FM voice communications. He clearly states that amateur radio communication capability, in all of its varieties, is the only reliable emergency communications system in a disaster situation that the community can depend on. In an actual emergency the phone lines and the cell phones systems, if still physically intact, become overloaded and all but shut down. It is not just the radios and allocated spectrum that make this possible but the availability of knowledgeable and trained volunteer operators. Almost a century of experience has demonstrated that the community and nation can count on amateur radio to be there to help provide needed emergency communications.

By the way, another of Allan's passions is photography.

Allan thanks for all of your contributions to amateur radio.

73 N7HVF Linda Reeder □

Candidates for Editor Sought

The UARC Nominating Committee Chairman, Gary Openshaw, KC7AWU, is currently seeking potential candidates for the position of Editor for *The Microvolt*. Sought is someone with moderate computer skills, a computer (Mac or PC), a reasonable sense of what makes for good reading and interesting layout, and some writing skills. As this editor has often told the board, the editor does not write, he (or she) edits, but writing skills are helpful. One of the greatest tasks the editor has is to get others to write reports for the newsletter. The second big task is getting it out on time.

If you are interested, or know of someone who might be interested, please contact Gary Openshaw (Home 484-3407 or Work 595-4381). You can also contact myself (Home 943-1365 or Work 353-0691) to get more details as to what the job entails, what tools are available, or any other related issue.

I have enjoyed the almost two years as editor but feel that it is time to move on and let someone else with new ideas take over this position.

73 - Bruce Bergen - KI7OM □

Salt Lake Tornado

On August 11, 1999 at 12:40 PM, the unthinkable happened in Salt Lake City, a TORNADO! Yes, a tornado! No, this is not the Midwest or the Southeast US, it happened here in Salt Lake. Rather than rehash the news stories that gave infinite accounts of the disaster, this article will highlight some of the efforts of amateurs in Salt Lake that helped support a monumental relief effort.



Ed Campbell
NT4TT, was
"Red Cross
Chapter"
on his shift.

Photo: Ron Speis, KC7MYS

Certainly, the center of activity in this disaster was the UARC station in the Salt Lake Red Cross headquarters. Shortly after the tornado, the call went out for assistance at the Red Cross. As many hams as possible were needed to help staff the Red Cross resources. Some of these resources included: five Red Cross emergency response vehicles (ERV), the Red Cross HQ, a Red Cross shelter, several aid stations set up in the disaster area, as well as supply and disaster assessment vehicles.



Damon Talbot,
KC7NEC, provides
communications
in one of the ERVs.

Photo: Ron Speis, KC7MYS

The Red Cross kept hams busy from Wednesday (the day of the tornado) until Saturday afternoon. At the peak, at least 30 hams were in various positions supporting Red Cross operations. Additional hams were in place to assist other agencies including hospitals, state vehicles, the county EOC and others.

This was the ultimate test of a hams grab-and-go preparedness. On very short notice, hams had to setup mobile radios in Red Cross vehicles using mag-mount antennas, batteries, and mobile radios.

Operators in the field had to set up with no resources other than what they carried. Thanks to all the work that has gone into station preparation at the Red Cross, we only had to add one extra VHF radio to go with the VHF/UHF operations at the Red Cross.

Due to the literally hundreds of hams that helped, it would be impossible to recount the all the names. I would however like to pay particular attention to Joel and Cindy Neal. They were involved in this activity the entire time. Joel and Cindy are without a doubt, the most public service minded amateur radio operators I have ever met. It was a great pleasure to serve with them in this demanding communications



Back row: Damon Talbot, KC7NEC, Joel Neal KC7UVP
Front row: Russ Scholz, K7MRS, Ed Campbell NT4TT, Chris Thompson N7ZWG

Photo: Ron Speis, KC7MYS

If you are not a member of ARES, I encourage you to join. You will learn so much to help you become a better operator and serve your community. We sometimes forget that there is a reason we are allowed to use these frequencies we are given. Events like the Salt Lake City Tornado illustrate the reasons we are bestowed this great honor to serve. Of course, you might be saying; "But, I work...I cannot just leave and go to the Red Cross". Well, we all work! It is understandable if you cannot explain to a supervisor that you need to go help the Red Cross so you need to get out early. So, come on out when you are not working. Personally, I was not able to get out until 4:00 PM the day of the tornado, but I went down to the Red Cross to provide relief. Everyone can certainly work out something similar. I encourage you to find out about ARES and learn what you have to do to be prepared for the next disaster – you remember Earthquakes, right?

Tom - NY4I□

Ham Radio Saves the Day!

Deseret News
Friday, August 20, 1999

Ham radios saved the day

Something that was very much behind the scenes but made this tornado disaster much easier to cope with were the many volunteer ham radio operators who provided communications when cell service and local phone service were saturated. From the start, many ham radio operators provided communication with shelter operations, Red Cross vehicles, state and county EOC and Camp Williams Military EOC to the Red Cross Center at 500 South and 400 East, staffing these locations for many hours.

Much of this was behind the scenes but was crucial for the ability to communicate and organize relief efforts. The Utah Amateur Radio Club set up a communications center last year at the Red Cross as a service to the people of Utah. Equipment, time and effort were donated to make this possible.

In an emergency, vital communication lines did not work. If you tried to use your cell phone, you know what I am talking about. I wish to thank the many ham radio operators who spent many long hours and took off work so that they could be of service to those in need.

We were glad to be of service.

Alan Seyboldt - N7OI
Salt Lake City

Editor's Note: We all need to be taking more of a proactive course and letting the public know what we can do and have done. Thanks, Alan, for this great bit of PR. □

The Shortest Route

Editor's Note: The following is a letter Scott Bullock, KK7LC, received a few weeks ago, from Chris, KB7ETP, of Michigan, and wished to share with UARC members.

Chris Maher, KB4ETP
PO Box 5, Lambertville, MI 48144

Scoff Bullock, KK7LC
10280 Temple View Dr.
South Jordan, UT 84095

8/20/99

Dear Scott,

I would like to thank you for the help you provided to my family and myself on August 11th of this year. My call sign is K8ETP, and I am the ham that sent the distress call you picked up from the 146.760 repeater. Due to your immediate and thorough assistance we were extradited from a difficult situation with the help of the Utah (county) Sheriffs department.

I apologize for not being able to thank you for your help directly on 2 meters, as you may have surmised the battery on my Yaesu FT 50R only lasted for a few hours. I thought you might be interested in an account of our experience.

At the beginning of August, my family was vacationing in Park City, UT. We decided to visit Arches National Park, in southern Utah, near the city of Moab. My laptop has Street Atlas v6.0 software and a DeLorme Earthmate GPS, which I used to plot the best route between these two cities. It informed us that the quickest route was going to take about five and one half-hours, and gave us detailed directions. We set off at about 6pm, figuring to get in to our hotel in Moab between 11 and 12 at night.

The directions started us on a state road, then a rural road, then a gravel road, and finally we found ourselves on what appeared to be a well-maintained dirt road. The Street Atlas program made no distinction between these "local roads", and since I had requested it to plot the "quickest" route, I assumed that it would be a brief period before the return of black top roads. But that was not to be.

The GPS was flawless in directing our every turn, for which I was grateful, because few if any of the turns were marked in any way. I was able to predict each upcoming twist and turn of the road, and since we were traveling in a mountainous part of the country, there were many switchbacks and steep grades. Unfortunately, we were continually directed onto increasingly poorly maintained roads, and soon found ourselves on a two-track dirt path twisting through the mountains. I should note that we were traveling in a rented Ford Explorer, which was a four-wheel drive vehicle. Although we had no experience in back

country driving, we still felt that the Explorer could handle the rough roads we were on.

As evening continued to grow, the scenery was magnificent. If I had requested a "scenic" route instead of the "quickest" route from Street Atlas USA, I would not have been disappointed. The Birches and Aspens were gorgeous. Unfortunately the road continued to deteriorate. Rain had recently wet the road, which had turned into treacherous slippery clay. We didn't feel we could go back up the mountain, even if we could find a spot to turn around in. Finally, at the point where the road was washed out to a drop off, even crawling at 2 mph was not enough to keep our vehicle from beginning to slide toward the edge. It was clearly not safe to try to continue, so we decided to call it a night.

We had no food to speak of, but did have plenty of water. We put on all the warm clothes we had with us, and tried to get comfortable. This was of course quite a challenge, as we were 5 people, including my 79-year-old mother, my wife, my 10-year-old daughter, and my 8-year-old niece. It was 43 degrees when we stopped, and soon began to rain again. I won't go into details, but it was a very, very long night.

At first light I got out and began to climb to the top of the highest point I could, to see if I could contact anyone on 2-meters. Luckily I was traveling with my ARRL repeater directory, and after trying about 50 different frequencies, I managed to make tentative contact with a ham that stated he would help as soon as he got home in about 10 minutes. I began to call again when I had not heard anything in 15 minutes, and that is when I contacted you. As you know, my contact with the 146.760 machine was poor. To manage as good a signal as possible I had to stand in a specific spot at top of a outcrop, with my radio held just so. At this point I was probably 50 to 60 miles from the 146.760 repeater, assuming it is located somewhere on Lake Mountain west of Orem.

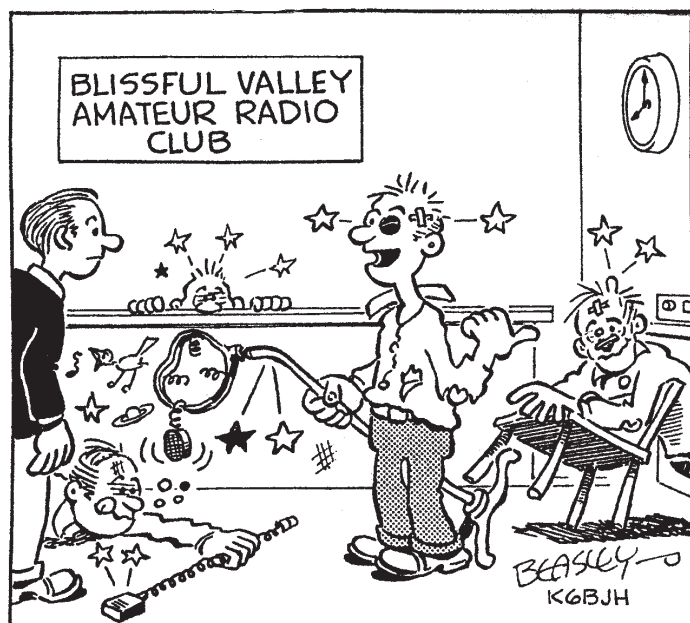
I had written down the Latitude and Longitude as reported by the GPS before my climb, but somehow that turned out to be for Park City, not for our current location. (This was the first time in my life I had real use for that information, and it turned out to be bogus). But our location near Soldiers Summit (7 miles from US highway 6 near the left fork of the White River) was accurate, and by the time my battery had died about 9:30am I was confident that help was on the way.

By 11:30 the road had dried out enough we were able to get under way again, and the search plane located us by 12:00. The sheriff reported that he had to wait for several hours for the road to become passable from his end, before he could begin to come in to the Uinta National Forest to help. He gave us some tips on how to drive through heavy mud and deep puddles, and we got under way again. We went through some very rough road before we finally emerged on US 6, and it was a blessing to know that we had experienced four wheel drivers before and after us to guide us.

Naturally our rescuers were curious how we had gotten into that part of the National Forest. When we showed them our route on the computer they were incredulous. Sargent Bell of the Utah (county) Sheriff's Department stated he wouldn't take that road on a good day, and that its real use was as a snowmobile trail! I too found it astounding that we followed the exact path that Street Atlas USA recommended as the "quickest", and were guided by the GPS into the kind of terrain we were. Delorme appears to believe that route we took is paved blacktop, when in fact it is a little used dirt road. It would appear that this is a story of excessive faith in technology gone wrong, redeemed by technology done right!

In any event, you have my deepest thanks, and can be proud you were able to use your technical skills to help out a fellow ham in need of rescue.

Chris Maher, KB4ETP □



CMON IN--- WE WERE JUST DISCUSSING THE RELATIVE MERITS OF THE OLD RIBBON MICROPHONE VERSUS THE ELECTRET MIKE !

Amateurs Respond to Utah Tornado

As Snoopy could write: "It was a dark and stormy day." For many in Salt Lake City, it was the storm of the century. For Amateur Radio operators, it was an opportunity to serve.

Wednesday, 11 August 1999, will be remembered as one of those days where an event spawned hundreds of stories and created hundreds of heroes. Emergency service volunteers will point to the "Salt Lake Tornado" as reason to be prepared and as Robert Baden-Powell told Boy Scouting nearly a century ago, we must be "prepared for any old thing."

Salt Lake City is nestled among several mountain ranges and along the shores of the Great Salt Lake. To the east and west, mountain peaks shadow the city and the lake creates odd weather patterns often called the "Lake Effect" We get heavy snow, we get rain and thunder, we have experienced floods and mudslides, we have learned to expect an earthquake - but a destructive tornado isn't among the common potential emergencies we have learned to expect.

Shortly before 1 p.m. on the 11th, the skies darkened and several weather cells moved into close proximity, creating what one meteorologist called "bomb genesis." The result was a destructive tornado that ripped through downtown Salt Lake City and then into an historic residential area called the "Avenues.". Along the way one man would lose his life, a hundred would be injured, homes would be destroyed, and commercial property damaged. The state Capitol would sustain damage as well as some minor damage reported at the Church of Jesus Christ of Latter-Day Saints' Temple Square. The LDS church is constructing a major assembly hall north of Temple Square and home video showed dramatic scenes as a giant construction crane collapsed. Damage from that collapse was limited to superficial hits on the outside of the new building and the crane operator had moments before felt ill and climbed down for lunch.

Aerial views showed homes with roofs removed, businesses almost leveled, and cars crushed under debris. The Delta Center, home of the Utah Jazz NBA team sustained major damage as the roof was lifted and windows blown out. The Wyndham Hotel sustained major damage as well as an outdoor retailers show being set up next to the hotel.

As the sky darkened, hail fell, and power failed, initial reports to the *Deseret News* were that an electrical

power vault had exploded, presumably hit by lightning. The News building has a battery backup system as well as a large diesel generator with a three-day capacity. While much of the area was dark, reporters were not too alarmed as they rushed to cover what might be "routine" storm-caused power outage.

Moments later, the arriving Salt Lake City Fire Department captain radioed for additional assistance, asked for a mass casualty response and requested a three-alarm response. Some voiced the thought that this must have been a pretty significant power vault explosion. The fire command post was about two blocks away and several of us walked over to get an idea of what had happened. As we walked along Main Street and then South Temple, debris littered the street. As the Wyndham Hotel came into view, word, cannot describe the eerie feeling as we saw scores of broken windows.

On the street in front of the hotel, the scene was surreal. Emergency crews scrambled among the wreckage of a huge outdoor tent. Sirens wailed as additional fire and law enforcement personnel arrived. Two hospital choppers hovered and then landed. Radios crackled with emergency pleas. People who had vacated nearby buildings stood in a shocked state as they watched the activity. Emergency radio frequencies could be described as wall-to-wall traffic.

For the first few hours cell phones we almost useless. Pressing the "send" button would give you a fast busy indicating all circuits were busy and often you would not even get a response, the phone appeared dead. Downtown phone circuits were also overloaded and perhaps one in five calls attempts went through. Dark thunderclouds continued across the sky alternating between light and dark, creating a spooky atmosphere. Once emergency personnel were on scene and the sirens quit, a silence enveloped the downtown area. Power was out to many businesses and people stood on corners, wondering what had happened.

Many would shake their head in disbelief when told it was an F2 (130 mph) tornado. "Not possible," was a frequent reply and only when home video of the twister was shown on news programs, would some believe that a tornado had struck the city.

Within minutes LDS Hospital activated, the Salt Lake County Amateur Radio Emergency Service group pagers and Emergency Coordinator Don Scarlet, N7DIZ, opened an emergency net on the group's repeater. Minutes later the American Red Cross

(ARC) also paged Scarlet. LDS Hospital wasn't sure what communications needs would be and told Scarlet simply they were on alert for a major casualty event. The ARC filled Scarlet in on more details and requested their emergency communications center be activated.

As trained during ARES meetings, local operators checked into the net and were assigned as the requests for operators came in. Several months earlier the Utah Amateur Radio Club along with ARES (most of us share dual or triple membership in various Amateur Radio organizations) had built a club station in the Salt Lake ARC Chapter's new office. The station is equipped with HF, VHF, packet; and assorted antennas for use as a club station and then under ARES direction during emergency activation.

Using the UARC club call W7SP, the ARC was soon on the air and responding with their "emergency response vehicles" (ERVS) with an Amateur Radio operator assigned with each Red Cross team. The VHF Society's 146.94 repeater would be the Red Cross main link for several days.

Members of the Davis County Amateur Radio Club, many of whom work in Salt Lake, quickly activated their system and bolstered the volunteer ranks. Several VHF and UHF repeaters were pressed into exclusive emergency operation.

Brent Thomas, AC7H, the State of Utah's Comprehensive Emergency Management communications officer, activated the state's EOC station and K7CEM was on the air. In minutes the Salt Lake County EOC was activated as operators manned that station. Other ARES members responded to area hospitals to augment communications and telephone systems. Over previous years, ARES groups in most counties have installed antennas and in many cases complete stations in readiness for disaster response. Knowing the potential for disaster and the need for reliable communications, the Intermountain Health Care (IHC) hospitals have purchased Amateur Radio equipment and worked with ARES members to have antennas and equipment in place.

During the next hours and days, Amateur Radio assisted linking hospitals and EOCs with command posts and volunteers with the Red Cross. As shifts ended, additional operators were ready to step in and continue the effort. While many were exhausted, there was a sense of purpose heard in their voices and common courtesy and established on-the-air protocols

were observed. Several operators were sent to a special telephone center setup near the command post and they helped field calls from people concerned about loved ones perhaps injured in the downtown area.

County ARES chief Scarlet was pleased that the system worked so well. He said the agencies knew how to activate the agencies' ARES pager system and area operators were prepared to respond and knew what to do when they arrived on scene. He was grateful that many agencies had cooperated in past years in establishing antennas and stations.

When the UARC club station was proposed, who could realize that shortly after its completion it would play a key role the "storm of the century"

Thomas was pleased in the Radio response, saying they were there with radio channel capacity when needed and ready when needed. He responded to the downtown command post to assist with communication needs and discovered the overloaded public telephone and cell systems. He said that about one in ten cell calls would go through and attempts to use the phones was futile. He attributed much of the overload to people downtown wanting to call friends and relatives and tell them about what had happened, not realizing that their calls would prevent emergency calls from getting through.

Some of the concerns Thomas had about the radio response included the time needed to get operators on location. Many streets were blocked by downed utility lines, trees, and debris. What should be a five-minute trip took over an hour. Thomas suggested volunteer responders take time in advance to contemplate various routes to command centers and hospitals.

Thomas has since received calls from other state agencies asking for supplemental communication equipment for future events. Many of the state radio channels received heavy use, especially right after the initial reports were received.

Another observation from Thomas and the author's view suggest that initial reports, especially from electronic media, need to be carefully evaluated. The tornado touched down almost next to a major radio/TV broadcast studio, KSL. It was natural for the station to immediately show reports of the damaged Delta Center, Wyndham Hotel, and outdoor convention site. Certainly that was where the

immediate action was with the lights, sirens, choppers, and confusion.

What wasn't apparent to Thomas and others, was the additional damage as the tornado made its way through the Avenues residential area. While reports were quick to come in and fill the information void, the initial thoughts were that this was a very confined area. Following the event, SLC's mayor asked businesses voluntarily to close and send workers home. A section of downtown SLC was cordoned off as well as areas of the Avenues. ARES members with ID cards were passed through roadblocks, pointing out the need for participation and registration in advance with such groups. Thomas said that having, the "Amateur Radio" callsign license plate on a private vehicle was also an asset to volunteers.

Other suggestions for future planning include having Amateur Radio antennas installed on agency vehicles such as the Red Cross ERVs. Not having antennas degraded signals into the repeaters and caused unnecessary repeat of messages. Operators responding to staff ERV or other mobile needs should also have magnetic antennas and extra batteries as not all vehicles have lighter plugs or easy ways to connect radios to the vehicle power system.

Another area of concern would be that communication areas are close to decision-making areas. There were some delays as responses to messages required operators to walk considerable distance to the command personnel either in hospital or with agencies such as the Red Cross. The concept of having a 'shadow' follow key decision makers creates the communication ability so quick responses can be made. The ARES has established a central repeater as the "meeting place" in time of emergency and that concept worked well as operators knew where to tune. Operators were commended by agencies and listeners for their on-the-air procedure and how professional they sounded. Instructions were acknowledged and information relayed accurately and in a timely fashion.

This event struck so swiftly the National Weather Service was unable to trigger an alert. Because emergencies often strike when least warned or ready, it is critical that volunteers are ready to respond with their equipment ready. Grab-and-go gear, vehicles, radios, batteries, distinctive jackets, ID cards, etc., must be ready when needed. As with this event, there was no time to go home and obtain gear and if there was time, the debris and traffic would delay any prompt response.

Salt Lake City may never experience another tornado, but this one will not be forgotten. After all the damage was assessed, the most important statistic was that only one life was lost. Property can be rebuilt. We are grateful and humbled that this disaster did not effect a greater human toll.

Jerry Wellman, W7SAR

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A Blast from the Past

Salt Lake City March 12, 1931.

The regular meeting of the Utah Amateur Radio Club was held at the home of Ed Hardley 412 South 4th West. The minutes of the last meeting were read and approved.

A short discussion of the Low Power Contest followed which closed for the 40 meter band at midnight on March 12th.

Mr Carter was appointed chairman of the Code Practice School and called several students immediately.

Mr Giles presented his paper on "The Electron Theory" in a very interesting and comprehensive manner. A lively discussion followed in which Mr Hardley and Mr Fogeler took a prominent part.

Mr Carman announced that he hoped to have news that Mr Johnson and Mr Irvine would present their photographs of transmitted radio signal for the next meeting.

After refreshments the meeting adjourned.

V D Green Secy-Treas.

Document Scanning: Alan Seybold, N7OI

Minutes of the regular UARC meeting of 12 March, 1931, tell of what apparently had been a 40 meter QRP contest that had just ended. UARC, even then was involved in holding classes, this one a Code Practice School. A paper on "The Electron Theory" was presented by Mr. Giles..

The final item was an announcement that perhaps "Mr. Johnson and Mr. Irvine would present their photographs of transmitted radio signal" at some future time is an interesting item. One wonders whether this would be an oscillograph of some sort. Certainly Cathode Ray Tubes (CRT) were available in 1931.

The meeting ended with refreshments - a tradition I think the present day UARC membership would benefit. Like a Ham Radio "Cracker Barrel".

Bruce - KI7OM □

DCARC Members Aid Flood Victims

Synopsis of Amateur Involvement:

- 91 Amateurs put in 1718.5 hours on-site or behind the scenes during the first 12 days of the emergency.
- 4 non-hams assisted the amateurs in various capacities for a total of 67.5 hours.
- One ham was from Fillmore, 2 from Preston, ID, one from Grantsville and then the others from points in between.
- 28 of the volunteers were members of the Davis County ARES group

DCARC members volunteered their communications talent July 13 after a flood from a broken canal inundated 75 homes with mud in the Riverdale area of South Ogden.



Photo: DCARC

KC7RAF, C. Hall Blankenship- Voice of Motor View

Hall Blankenship, KC7RAF, and his XYL, Anne, KC7RAG, towed the DCARC war wagon to the flood area Tuesday and set up a command post near the MotorView Drive-in theater.

From there, they aided DCARC members who followed the flood cleanup workers and relayed their requests for more volunteers, heavy equipment and other needs in the cleanup campaign.

More than 2,000 volunteers showed up each day to help the people of the area dig out from under an estimated 450,000 tons of mud and silt that cascaded into the area after the Sunday break.



Photo: DCARC

ARES De-briefing

The relief effort was supervised by the Riverdale City Mayor Ben Jones, the city Public Works Director, and other city officials, who said they couldn't have done the job without the help of Amateur Radio communications. Scheduling of Ham help was done by Rod Taylor, K7DJB, with many hours of effort expended.



Photo: DCARC

Red Cross ERV with Ham on-board

Some DCARC members showed up each day to help in the relief effort and their work was greatly appreciated. Riverdale was declared a disaster area by Governor Leavitt.

August, 1999, *DCAR Communicator* □

VHF PL Tones

John Reynolds, N7GXD, wrote:

Hi Lloyd,

I've been licensed since 1958 at the age of 14, and have never done much with VHF/UHF since I'm primarily a

CW DXer . However I do own an old IC-2A with the thumbwheel freq dial-in, which still works, although the pots are getting scratchy. I just got it out again after a long time and now notice that I can't bring up a lot of the repeaters because of the tone access. I have no means of selecting different tones with it. It has 1750 Hz set internally, which I used while in Europe. It was originally an IC-2E. I guess my question is why are we "doing" tones now so much? Does this mean I now have to buy a new radio to just be able to occasionally access the different repeaters while I'm in the mountains and may need help or just "need" a QSO?

My second question is, is your group doing anything to participate in the upcoming ARRL VHF contest?

TNX es 73 John N7GXD

John Lloyd, K7JL replied:

John,

The main reason for putting tone decoders on the repeaters is to reduce all the noise and other spurious signals that are out there getting into the repeaters now days. Most people don't like listening to a repeater that keys up with screeching noises with tones or multiple voices all mixed together. This noise problem is a result of our population increase which has brought a multitude of transmitters into our area. The transmitters are a mix of 2-way radio, paging, television and FM broadcast transmitters. Their greatly increased numbers have caused the problem.

We installed tone to control this problem on the repeaters; otherwise, we would be faced with listening to all these various noises from time to time.

The problem actually gets worse when we have bad weather. It makes diode junctions between pieces of metal that touch each other but are not bonded to each other and now will create a mix of signals from nearby transmitters and create even more noise to receive with our repeaters.

I like many others have had to buy newer radios with tone capability to continue to access our repeaters. Hopefully you will see this as an opportunity to upgrade to a newer radio with all the new features that are available today.

The price of a new handheld is reasonable. For instance a new Yaesu VX1 handheld is under \$200 and will fit in your shirtpocket. It only has a 500 mw transmitter but has a lot of features. For around \$350 you can get a VX5 handheld that will transmit at 5Watts on VHF and UHF

and Six meters. It has a broadband receiver to pick up the AM broadcast band and tune in Shortwave bands such as WWV and others. They have built in a lot of capabilities in these newer handhelds. I would like to buy one of these radios for myself someday soon. My son bought him a VX1 and loves it.

Your existing handheld is still useful if you want to use it on simplex such as 146.520 while you are in the mountains hiking. There are a number of people that do such and listen there while in the mountains.

Repeaters that are located in remote areas of our state still operate for the most part in the carrier squelch mode (No PL required). They are fortunate not to have the same number of commercial transmitters that we have nearby and can operate their repeaters without PL. These would still be accessible with your handheld.

I have considered the idea of putting in a receiver with carrier access capabilities at some remote location for use by hikers in the mountains and linking it back into the snowbird system for access by radios such as yours. I haven't found such a location yet where it wouldn't cost a lot to do this. Do you know of any?

To answer you second question, There are several individuals interested in VHF contesting in the area. Most of them are on SSB near 144.200. Some of them get on FM on 146.56 during the contests. There is a lot of activity on Six meters both SSB at 50.125 and FM here also. Listen for them there. I can give you names and calls if you need them.

Hopefully this answers your questions and provides more insight into why PL is on so many of our repeaters now. Maybe you have some ideas for us to consider too.

Thanks - John, K7JL ☐

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Bob Wood W7OAD, UARC Member**

Scott's Hill Report

On Saturday August 21, a small group consisting of Ron Jones, K7RJ, Chris Nickols, KC7SHN, Allen Wright, N7QFI, Don Rawlins, N7YUQ, Matt.Roller, KD7CLX, and Bruce Bergen, KI7OM set out to do a number of tasks of the repeater building.



Gregg Smith, KD7APW, starts the inside framing with the metal studs.

First was to get the inside sheetrock walls primed and sealed with a good coat of PVA. Alan took care of that in a very proficient manner. He even wet moped up the floor before we moved everything back in the building at the end of the day - well someone had to do it.

Second major task was to get the halo ground or ground ring in the ground about two to three feet out from the building and under about six inches of soil. We had a great deal of concern about how hard this would be, but because of recent rains the soil was still rather moist and easy to work. As a result we were able to lay out the complete ring of four inch wide heavy copper strap in about an hour. To all our surprise we accomplished a great deal and added four radial straps varying from about thirty five to fifty five feet in length on the north or tower side. This left only the south side to complete as part of the primary lightning protection ground array.

Don reattached the fluorescent fixtures, ran the heater control lines, installed the thermostat, and the electrical cover plates. We tried out the new heater which worked great for drying out the inside. At this point the heater will only be used for the occasional winter service visits, but will really be welcome in those situations.



Photo: Ron Speirs, KC7MNS

Chris Nickols, KC7SHN, and Matt.Roller, KD7CLX, enjoyed the vista from the site

September 6th, Labor Day, found another group back up on the site for half day work party. This group included Clint Turner, KA7OEI, Dick Abbott, K7MZ, Derek Sheehan, W7REX, Darryl Hazelgren, AF7O, Bruce Bergen, KI7OM who in the spirit of the day brought pick and shovels to the site to labor.

The additional two ground straps were laid out from the two southerly building corners, with one measuring about 40 and the other 45 feet. Again recent rain had properly moistened the soil so the digging went without much difficulty.

The dual cabinet was reassembled and with some minor electrical work, yet to be done, will be ready to accept equipment.

Clint had left a small temperature data logger in the building at the end of our July 31st work party and was able to download the information to his notebook PC. From a quick look at the data, the temperature seems to stay within about a ten degree range with the notable exception of the time during our visit of August 21, when we ran the heater. Clint indicated that he will be posting this information on the Scott's Hill web site sometime in the next few weeks.

Details needing to be accomplished before snow makes the site inaccessible for wheeled vehicles are to silver solder the ground straps together and bond the tower bases to the ground field along with the single point bulkhead/feedthrough plate. Randy Finch, K7SL, has assured me that he and John Clark, N7SFN, will get this done within the next few weeks.

Additionally an insulation system for the steel plate door needs to be devised and installed, along with a

ventilation system. A folding shelf/workbench will be installed on the inside south wall. These last items are not critical to the installation of any radio equipment but will make working there much easier.

This brings up the big question - when will the repeater be up and operating? Much work still remains to be done on the radios, microwave links, power supplies, feedlines, towers and antennas. Much more than will or can be accomplished between now and the end of October which is generally the absolute latest we can get into the site. The unsettled nature of the Farnsworth site has compounded the issues and cut into the available manpower.



Photo: Clint Turner, KA7OEI

Fred Westergard, KB7VIL (on the right), and the author work on removing the old roofing material.

Finally, though some good news. Only some of you have been aware that, though the Forest Service, on whose land the building sits, gave us the go ahead a year ago in June, 1998, we have been operating on the good faith of the Forest Service personnel with nothing in writing. We were continually reassured that it was a "done deal" and "not to worry". I worried. I have been working on this project for over four years, and two years ago we were told "NO"! An order from the Forest Service District office for the last occupants, the State of Utah, was given to demolish the building, and it was only through my persistence, the coming of the Winter of '97-'98, the intervention of Congressman Cook's and Senator Hatch's offices, and some personnel changes in the Forest District office, that we finally had the verbal go ahead last year. On September 4, 1999, I received a signed twenty year permit from the Regional office in Ogden. There will be no fees due for this year, with the first fees payable for 2000, next year, of approximately \$100 for the year. BIG Sigh!!!

73 - Bruce - KI7OM □

Special Edition Now Available

A special edition of *The Microvolt* has been prepared and printed. This sixteen page publication is full of good information for the new Ham and old salts alike. Its primary purpose is to promote UARC to newly licensed Hams at test sessions and will be offered free, as well as new members who sign-up at club meetings.

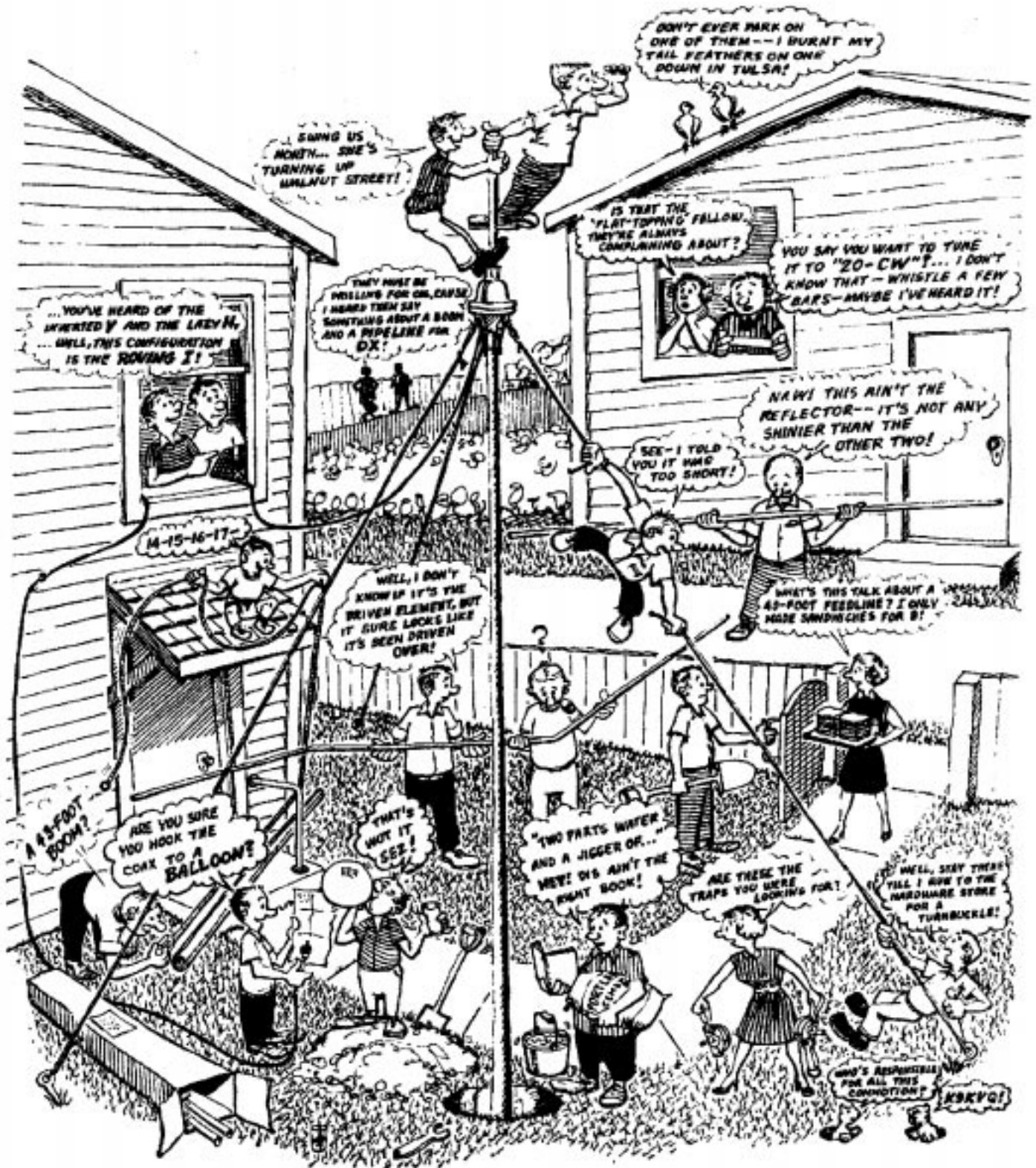


Features include congratulatory greetings from the President, club history and information, helpful information on how to use repeaters, club policies, local sources of information, a list of selected local repeaters, an updated simplex list, information on how to join, and a challenge to expand one's horizons and to upgrade. A membership application and preprinted return envelope will be stuffed inside to make it easy to apply for membership.

These will not be mailed out and will only be available in person. For current members who wish to have a copy of their own, the cost is \$3.00. The "Book Lady" will have them on sale at club meetings. We hope many of you take advantage of this and help with the cost of printing by purchasing your own personal copy.

73 - Bruce Bergen - KI7OM
Editor *The Microvolt* □

The Tower Party



Examination Schedule for October

10/02/99 (Sat.) Salt Lake City
 Contact: Gordon Smith, K7HFV
 Phone: (H) 582-2438 (W) 534-8116

10/13/99 (Wed.) Mantua
 Contact: Niko Takahashi, AA7OL
 Phone: (435) 753-9544

10/20/99 (Wed.) Provo
 Contact: Steve Whitehead, NV7V
 Phone: (H) 465-3983 (W) 225-5200

10/22/99 (Fri.) Vernal
 Contact: Karl Swain, KJ7ZQ
 Phone: (435) 789-3164

10/26/99* (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 checkout the information on our webpage
<http://www.xmission.com/~uarc> □

October Meeting: Antennas and Transmission Lines



Photo: Ron Speils, KC7MYS

Dave Fischer, W7FB, will make a presentation on Antennas and Transmission Lines in October.

Ever wonder “How can I get a better signal out?” or “How high an SWR is too high?” The October UARC meeting might be the perfect opportunity to get answers to those and similar questions involving

antennas and feedlines. It will be held Thursday, October 7, at 7:30 p.m. (See information on the meeting place for more details.)

Our guest speaker will be Dave Fischer, W7FB, from Huntsville, and he will be talking about antennas and feedlines and how you can determine if you have an efficient station. When RF power leaves your transmitter, some of it is lost heating up your feedline, and more is lost heating up your antenna. What is left actually radiates as radio waves. How much of the original transmitter power is that? The answer determines your station's efficiency.

Some of you may remember Dave from Matt George's presentation last May on learning the Morse Code. Dave presented the section on the timing of the code elements.

Dave tells us he has some formulas, almost never before published, that can easily be put into a spreadsheet creating your very own station efficiency calculator. Come and find out how it is done.

In addition, the ever-popular “Fred, the book lady” (KI7KM) will be there with the latest ARRL books. Greg Smith, KD7APZ, will be available to help you sign up for ARRL membership or renew your existing membership. There will be a chance to meet the people you've met on the air and find out what they “really” look like.

Finally, if the meeting itself doesn't provide enough radio-activity for the evening, you can always attend one of the “Dime Limes” or “meetings after the meeting” that occur over pizza or other edibles. Don't miss it! □

Color Country Hamfest/Swapmeet '99

The Rainbow Canyons Amateur Radio Club (RCARC) invites you to the Color Country Hamfest/Swapmeet '99 on 16 October 1999 at Southern Utah University, Cedar City, Utah.

Located in SW Utah about 250 miles from Salt Lake City on I-15, Cedar City is conveniently located at 5600 feet elevation near Zion and Bryce Canyon National Parks and other wonders.

Visit the RCARC Website:
["http://www.netutah.com/rcarc/"](http://www.netutah.com/rcarc/) or contact Carole, N6NVC, 435-865-7822 □