The *Microvolt*

June, 2009

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Prologue

The Utah Amateur Radio Club was organized under its present name in 1927, although its beginnings may date back as early as 1909. In 1928, it became affiliated with the American Radio Relay League (club #1602) and is a non-profit organization under the laws of Utah. It holds a club station license with the call W7SP, a memorial call for Leonard (Zim) Zimmerman, an amateur radio pioneer in the Salt Lake City area.

Meetings: The club meets each month except July and August. The meetings are held on the first Thursday of the month at 7:30 PM in the University of Utah's Warnock Engineering Building in room 101.

Membership: Club membership is open to anyone interested in amateur radio; a current license is not required. Dues are $17 per year, including a *Microvolt* subscription. *The Microvolt* and membership cannot be separated. Those living at the same address as a member who has paid $17 may obtain a membership without a *Microvolt* subscription for $9. Send dues to the Club Secretary: Dick Keddington, KD7TDZ, 1933 Woodside Drive, Holladay, UT 84124-1632.

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-) is IRLP node 3352. Instructions for IRLP use are on the club website.

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 17th 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: Gordon Smith, 632 University St., Salt Lake City, UT 84102-3213. All submissions are welcome but what is printed and how it is edited are the responsibility of the Editor and the UARC board. Reprints are allowed with proper credits to *The Microvolt*, UARC, and authors. Changes in mailing address should be communicated to the Club Secretary: Dick Keddington, 1933 Woodside Drive, Holladay, UT, 84124-1632.

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Provo Autopatch Host &	
ATV Engineer: Dale Jarvis, WB7FID	801 224-3405

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IRLP Information

For information on using the club's IRLP node on the 146.76 repeater, check http://www.utaharc.org/irlp.

For late breaking news listen to the UARC Information Net Sundays at 21:00 on 146.62 or set your browser to: http://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 52, Issue 6, June 2009

June Meeting: Field Day

It's already that time of year — time to prepare for Field Day, the annual contest for portable and mobile stations. Our June 4 UARC meeting will be devoted to Field Day past and present including adventures and misadventures of UARC's past efforts.

Field Day is an annual nationwide contest sponsored by the American Radio Relay League (ARRL). UARC traditionally makes a club entry from a site near Payson Lakes. The object is for portable and mobile stations to make as many contacts as possible in a 24-hour (or in some cases 27-hour) period. The purpose of such an event is to give operators a chance to practice skills needed in an emergency — setting up a station quickly in an area with no utilities, copying messages quickly and accurately, and troubleshooting problems that may arise. Full rules for the contest (or, officially, "operating event") can be found at http://www.arrl.org/contests/rules/2009/fd.html.

Our meeting will include some operating tips for the newcomers and a chance for folks to volunteer some equipment and services that are still required.

June will also be the last chance to sign up for the July 18 steak-fry at a regular meeting.
Again, the meeting will take place on Thursday, June 4, 2009, at 7:30 P.M. The June meeting will be in room 105 of the Warnock Engineering Building on the University of Utah campus. Room 105 is just around the corner from 101, quite close to the elevator that services level L1.

Of course, the meeting will include the "standard" meeting features:
- Availability of ARRL books from Fred, the "book lady"
- An opportunity to join UARC or renew your membership
- An opportunity to join ARRL or renew your membership
- The chance to meet face-to-face the people you talk to on the air
- The "Meeting after the meeting": A chance to enjoy pizza or other gastronomic delights with other hams. It happens at Litza's Pizza, 716 E. 400 South.
- The "Meeting *before* the meeting": A similar get-together for those who can leave work early enough to get there by 5:15 P.M. The June get-together will be at "The Sizzler," 371 E. 400 South in Salt Lake City

Latest News

Field Day is Coming

Field Day, the annual contest for portable and mobile stations, is coming on the weekend of June 27 and 28. UARC will again be entering from a site just south of Payson Lakes on the Mt. Nebo Scenic Loop. Operation begins at noon on Saturday the 27th, but folks will be camping there as early as Thursday and setup begins at noon on

Friday. Teardown begins at noon on Sunday and generally lasts 2-3 hours. Everone is invited to come and spend whatever period they can. Help is particularly needed for teardown on Sunday afternoon.

We will have somewhere between one and three HF stations set up, depending on how many operators we have. This is a good opportunity to see how to set up and operate an HF station. We will start with an empty field and set up stations that will likely let us work over 1000 stations across the country in a 24-hour period.

If you have never done any contest operating, you may find that contest-style operating is excellent practice for emergency communications. There is a premium in points for communicating information quickly and accurately, sometimes under less than ideal conditions — exactly the skills that are required to send and copy information during an emergency.

The Field Day rules can be found online at: http://www.arrl.org/contests/rules/2009/fd.html . In 2008 we entered in the 2A category (Club or group portable with two simultaneous transmitters.)

This is a great chance to combine amateur radio with a trip to the mountains. Many people bring their families along and enjoy camping, hiking, and biking along with fishing at the nearby Payson Lakes.

There will be a community dinner on Saturday night. The club will supply a main course. Everyone is encouraged to bring a side dish that can be shared. Some possible side dishes that would complement the main course include chili, cheese, potato chips, pickles, and drinks.

Our site is just a patch of ground with no improvements. Bring whatever you need to take care of food, water, and shelter for the period you will be on the site. The club will supply portable toilets. Don't forget a coat. Even though it's summer, nights can get quite chilly at 7500 feet.

Here is how to reach the site:

1. Assuming you are starting from the Salt Lake Valley, go south on I-15 to the first Payson exit, exit 250. Take the exit.
2. Go left at the end of the exit ramp which should put you on Main Street (aka SR-115). (You are really going south at this point although it may seem like east.)
3. Turn left on 100 North, aka SR-198.
4. Turn right on 600 East, also called "Peetneet Boulevard." This turn is at the top of a hill at a picturesque old school.
5. Follow 600 East until it takes you to the mouth of Payson Canyon. At this point note your odometer reading or reset your trip odometer.
6. Watch for landmarks at these approximate mileages:
    a. 11.1: Payson Lakes Day-use area on the right.
    b. 11.7: Payson Lakes Campground.turnoff on the right.
    c. 12.3 Guard station turnoff on the right.
7. At the guard station turnoff on the right, don't take the right turn, but instead turn *left* onto a dirt road. Within a few hundred yards you will see the camp area.

Steak-Fry Coming

UARC's annual steak-fry and swap-meet will take place on Saturday, July 18, substituting for a July meeting. This is a great opportunity to spend some time up a canyon on a hot summer day and share a meal with other hams and their families.

To attend the steak-fry, you need to buy a ticket in advance. Tickets this year are $15 for the entire steak-dinner They can be purchased at the June meeting, at Field Day, or by sending $15 to the secretary: Dick Keddington, KD7TDZ, 1933

Woodside Drive, Holladay, Utah 84124-1632. Deadline for getting in a reservation is July 10th.

The place for the steak-fry is The Spruces campground, Area 7. The Spruces is in Big Cottonwood Canyon (the canyon that goes to Solitude and Brighton). Just go east on Fort Union Boulevard and continue into the canyon. The Spruces is on the right about nine miles up.

Meeting Night Change

This is a reminder that the coming June meeting will be the last one on a first Thursday of the month. Starting in September we will be switching to the *second* Thursday of each month.

7QP – 2009

by John Hardy, K7ALA

[Saturday, May 2, was the Seventh Call Area QSO Party, "7QP," where operators get points for working as many counties within the seventh call area as possible, and those operating within the call area additionally try to work as many states and provinces as possible. John here describes his adventures putting one of the more rare Utah counties on the air. Our cover picture shows his setup. –Ed]

I had decided to participate in 7QP this year and it was going to be my first time. I am an experimenter and I love to learn how things work. However, I didn't want this to be a failure (once you get out somewhere, it's not easy to fix things), but I did want to participate as best I could and I felt a bit self-conscious because I don't really have all of the great gear that I see others with, or advertised on the Internet.

So, without spending oodles of money I don't have (OK, I spent *some* I don't have), I remembered one of the things I've heard is to "get your antennas up as high as you can." So I figured that with the fairly low-end antennas that I have, a tower was necessary. Last year for Field Day I had bolted together 20' of punched angle iron, into a 2'x2' tower. I had taken some speaker wire and strung it out approx 65' on each end, and tried to use that to "listen" on 80M. I was studying for my General Class and I had purchased an FT-897D. But I was only "listening" because I was still at a Technician Class license. Anyway, my setup didn't work out very well for Field Day, but I did get to use the GOTA radio, and I brought my tower home and forgot about it. Actually at home prior to Field Day, I had made the tower 30' tall. But found out that I couldn't walk it up myself as the bottom kept popping up before I could get the top high enough. So I had only taken 20' of it.

So for 7QP I wanted to do the best job I could, and I remembered my homemade tower. I decided with just a few more 10' parts I could have a 40' tower and that should do pretty well. So I bought a few more legs and began putting them together. For Field Day last year I had a heck of a time getting the 2'x2' maneuvered around. It was big and bulky, and it tore my clothing due to the way it was assembled (L pointing out). So while making the 40', I decided to trim it down and make it a 1'x1' hoping it would be lighter and I put the "L" inward with only the bolts sticking out. But making it taller gave me some concerns and I added more "bracing." And with more bracing and bolts, it seemed to make it heavier than the 2'x2'. ☺

Now I have a 40' tower, and I needed a way to stand it up. 200-300 lbs of tower is not easy to work with, so I decided I needed to learn about block and tackle. I don't have any experience with winching or pulleys, and wasn't sure how to make this all work. So after giving it much thought and study, I decided to try using an electric winch. The only thing I could mount the winch to was my trailer, which I would be taking anyway, and that seemed to be a good idea. I found that I couldn't directly attach the winch to the trailer, so I mounted the winch onto some treated 4x4s. Then I then put the 4x4s under the ladder rack. This probably wasn't too smart, but practices at home seemed to suggest it might actually work. I also decided that I wanted to distribute the weight off the

4x4s, so I added a snatch block and used a towrope to help distribute the weight of the tower. This seemed to work well. So next, I needed to figure out how to mount my antennas.

I decided on three antennas so that I could have some flexibility. Last year I made a 20-meter 2-element beam — not much more than a dipole. And I had purchased a commercial Buddipole — a dipole that would do 40 meters. And of course I had my trusted 80-meter inverted V. I didn't want to try climbing the tower to adjust the buddipole to different bands, so with three antennas I could set it and leave it. Now with all three of these bands I should be able to make at least a few contacts, or so I hoped. I know that the Buddipole has a ½" pipe thread for mounting, and last year when I made my 20-meter beam I used a ½" pipe adapter so I could mount it to the Buddipole mast. But a ½" pipe didn't seem like it would be strong enough for this and I wanted something stronger. So I decided on a 1" pipe, and bought an adapter for the 1" to the buddipole ½". Then I bought a 1" to 1" adapter, which I mounted to the 20M beam. So I attached my Buddipole at the top, and the 20M on the bottom of the pipe, and stuck more of the 1" pipe down into the tower for support, then I could attach the 80-meter inverted V on the side of the tower. This would allow me to have all three. Actually I took four. I included a VHF vertical and it probably got in the way as I didn't really plan on where I was going to install it.

One of the things I've learned is that everyone you want to talk to is not always in the same direction. So the ability to point the antennas is a good thing. And I wasn't sure how I was going to point them. And I didn't want to add even more weight with 1" pipe running down 40', so I conjured up some PVC pipe and adapters, and was able to attach it to the 1" pipe inside the tower, and the PVC came down all the way to the bottom where I could twist the PVC and it would turn the 1" pipe, which would turn my antennas. I thought "Wow, this might actually work."

So now I had the hardware and I already have my radio. So what I needed next was cable. I bought 300 feet of RG-8. I felt like my antennas weren't the best, I didn't want to lose any signal the 40' up to the top, and I felt like I could use the cable elsewhere in my projects, so it was an expense I would live with (although I could have gotten away with something thinner).

So far I haven't spoken about where I was going to be. One of the goals of 7QP is to get "every" county occupied, and I had chosen Daggett County. I can honestly say that I've never been in Daggett County before. So I used Google Earth to find some suitable locations and then drove out there one day to see if they were really accessible, and they were not. So I came home and tried to find some others. In the meantime I had decided to change my approach and try doing a "Dual County" setup. This way you get double the points. I looked all over Google Earth and wanted to go out again to validate if I could get to any of these other locations, but my time was running out. I decided on one and then had a backup location in case it wasn't available. Jed, AD7KG, found my backup location, and it was a fine location right off the main road. But I wanted to be on top of the mountains if I could get up there. I realized that there was going to be a bit of work getting to my destination, and getting all setup. The 7QP started on Saturday and ran through into Sunday morning. So I left on Thursday to make sure I had the time I needed — especially since I didn't know where I would actually end up.

I took my GPS coordinates and headed out. I actually had two ways of getting to my preferred destination. I followed the first path from SLC to Vernal and then up the side of a mountain. I made it up many miles and came to a gate, which was locked. That didn't make me very happy; I wanted to be at my preferred point. So after grumbling for a while I decided to try the second way. So I drove down the mountain, and back into Vernal and followed the GPS up the second way. I was very pleased to see that this gate was open and continued in. I would stop the truck every so often — just prior to some big snow drifts — and evaluate if I thought I would make it through and what was on the other side. Then, I would put it in 4-wheel-drive and hit the gas. I kept doing this and kept at it until I made it to where I wanted to be. I wasn't sure I would make it, but it finally worked out. Through all of this I had been driving for 5 hours — trucks/campers and trailers don't go too fast up mountains. ☺ I decided that it was time for bed.

On Friday I got up and went right to work getting the tower unpacked from the trailer, and getting it into position. Amazingly, the ground I had to work upon wasn't as flat as the grass in my back yard, which presented a few more challenges. But after 8 hours of

bolting this monstrosity together, and getting the antennas mounted, and the cables strung, and the grounding wired, etc, etc., I was worn out. But with 7QP starting early the next morning I still needed to "lift" the tower into the air. At home I had realized that with just one point for pulling (with the winch), I needed guy wires to hold the tower from swaying to either side. So before attaching everything together I attached 2 guys to the side for sway control, and 2 guys to the back so the winch couldn't pull the tower over on top of the trailer. I then attached all of the guy ropes (Dacron 700#), 4 at 10', 4 at 20' and 4 at 35'. I was going to do them at every 10', but only had 500' and felt like 3 sets should be sufficient. Each guy was going to be in its own hole with its own stake. I didn't want one pulling out and taking the rest with it. Also at home I devised a way of pounding in concrete stakes at the bottom of the tower to keep it from being pulled towards the trailer, and give it a pivot point to lift the tower. I also had used some rebar bent over in an upside down "J" to hold the bottom from lifting up like it did for Field Day last year. I knew these worked from trying them at home, but what I didn't realize was that on a mountain, the soil isn't always deep, and that it usually has "rock" under it. So I couldn't get my rebar or the concrete stakes in very far. I wasn't sure anymore if it would work, but I tried anyway and surprise, it *did* work. The tower started to rise and I was tickled. ☺

Immediately after getting the tower upright, I began connecting the guy ropes to stakes. Again, the stakes were in soft soil and rocks, which wasn't perhaps the best, but it's what I had to work with. I also learned that using plastic stakes around rocks isn't a good idea; they break. 7QP started Saturday morning at 7 A.M. local time. After all of this setup I was beat. So went to bed and set my alarm for 7A.M.

Saturday morning arrived and I got up and began making contacts. It was kind of fun, but it didn't seem like there were very many people on the air. It could have been the time of day, or maybe it was my antennas, but I worked those I could hear. I also realized that I was up pretty high (9000') and I was using NVIS type of antennas and there wasn't much in the way of sunspots. So most of those I could hear were working some other QSO party in the east. That was good for me and I didn't care, but I wasn't getting the skip I was hoping for. It was fun trying to "run" a frequency. I sat on a frequency for a while and just kept calling out for CQ, CQ Contest, CQ 7QP Contest. I received a few contacts but it didn't seem like I was on a DXpedition where everyone wanted to contact me. So after some time not getting any replies I began the "Search and Pounce" approach. This was much more useful until I ran out of "new" contacts. I could hear those which I had worked but there weren't too many new ones. And then the big idea hit. Switch antennas. ☺ So I did, and off I went getting more contacts. I'd run up and down the band calling to whomever I could hear, and I was pleasantly surprised that for almost everyone I could hear, if I called to them, they answered me back almost immediately. I considered it good that I didn't have to wait too long in pileups and hoped it was the tower height that was doing the trick. When that band was used up, I'd switch antennas again, back and forth between them as needed. Of course my antenna switching wasn't glorious. I had four 4-inch UHF bulkhead connectors through the wall in my camper, and I'd unscrew my HF cable, and re-screw it onto another. I know there are better/easier ways, but I didn't have the time to find and buy one before I left. So the manual way was enough.

Near the beginning of the morning there was some wind and a bit later it began to snow. I had previously been watching the weather for that area, and I knew it had been predicted to rain and snow, so I wasn't surprised. I had brought extra food just in case I wasn't able to leave for a few days. So in between meals, I tried making contacts. Sometimes it was easy and other times it wasn't. But one of the things I had been preparing for was using my Rigblaster Plug and Play via my laptop. I had run into some technical problems of doing everything I wanted via this setup, but one of my goals was to make one CW contact. Keep in mind that I don't really know Morse Code, although I am working on it. But with the help of some programs, I decided to try. And sure enough, it worked. I made one CW contact and that was a lot of fun. So if someone tells you they don't know CW, they don't need to. ☺ The day wore on, the snow stopped, and I kept flipping through the frequencies trying to make as many contacts as I could. And some time in the afternoon the wind started up again. It wasn't too hard and I kept watching my guy ropes and they seemed to be doing fine, so I kept at it. And as the afternoon progressed it was still blowing, and it seemed to be getting stronger. I would notice my guy ropes begin to flex and sway and I didn't like it.

Sometime in the afternoon I was real happy to make a contact with ZF2ZB from the Cayman Islands on a DXpedition, but that was my only DX. The wind kept up and I kept watching. The wind had been blowing for many hours and it just wasn't stopping.

Around 6 P.M. I was making a contact and all of a sudden, the radio was quiet. At first I thought I had lost power, but I was running on batteries and solar, so I couldn't have, and the radio was still on, I just couldn't hear anything. I checked the cables, and I finally looked outside and saw that my 20M antenna was broken. The wind was strong enough to break it. That concerned me. I tried making a few more contacts on other bands, but kept thinking about the wind. I went outside a few times to change the pointing direction, and could feel how hard the wind was pushing me. So I decided to have some dinner and see if the wind would subside.

At 8pm, the wind had not subsided, but had gotten worse. I was completely unhappy and didn't want my tower to fall and break my trailer or camper. That just wouldn't be good. So at 8 P.M., and it took me 8 hours to build, I've decided that the tower must come down on my terms and not from the wind. So I began questioning whether or not I could get it down with the wind blowing so hard. The wind was blowing from the back, the trailer with the winch was on the front, and I wasn't entirely sure if I could undo the guy ropes from the front without it falling. But after careful examination I realized that the guy wires in the back would keep it up, and I could let the winch out and it should come down without incident. I undid the front ropes and began slowly releasing the winch. And the tower wasn't moving. The wind was blowing so hard from the back that it was keeping the tower up. I was trying to lower the tower onto it's back, and couldn't. I braced myself in between the trailer and tower and used my feet to push the tower over against the wind. Finally it was heavy enough and gravity helped it continue going down, but with the wind the tower wasn't going down straight and I couldn't keep it from breaking my 20M even more once it got down low enough to be touching the ground. I had a support built onto the tower to allow me to work with the antennas without breaking them. But going down sideways, I didn't have that support, and so my 20M is in need of major repair. So at about 9pm the wind was still blowing hard. The only thing going through my mind is that if the wind is this bad, what kind of storm is it bringing? I didn't want to be stuck on that mountain for days or weeks, I hadn't seen a soul since getting up there, and thought the best plan was to get everything packed up and get off that mountain. I worked and worked and after 4 hours I had it all packed up and ready to go. Of course it was dark, but the wind still had not subsided. I felt good in my decision, but wanted to leave and was getting anxious that I wasn't moving fast enough, and might get caught in something big. But I did leave, and was able to make it off the mountain. Once I got back to Vernal, I was surprised that it was quiet and peaceful and no wind. I felt kind of silly, but it was still better to end it early than to damage my trailer or truck and camper. I could have stopped somewhere, but my frame of mind was just to get home, and once I arrived back home, realized I had been up for 22 hours.

So after all that, what did I learn? I've learned I don't ever want to put that tower back together again. But with limited funds, maybe I would on some future date. ☺ Seriously though, Amateur Radio has taught me tons, and experiences like this continue to help me grow and learn, and learn how to be more careful next time.

Examination Schedule

06/03/09	(Wed.)	Ogden	Mary Hazard, W7UE	(801) 430-0306
06/06/09	(Sat.)	Salt Lake C.	Gordon Smith, K7HFV	582-2438[1]
06/13/09	(Sat.)	Logan	V. P. Rasmussen, N7JFG	(435) 770-0630
06/17/09	(Wed.)	Provo	Steve Whitehead, NV7V	465-3983
06/17/09	(Wed.)	St. George	Gary O. Zabriskie, N7ARE	(435) 674-2678
06/30/09	(Tues.)	Salt Lake C.	Eugene McWherter, N7OVT	541-1871[1]

[1] Preregistration required. Contact the indicated person.