

# The *Microvolt*

July, 2012



## Prologue

**Publication:** *The Microvolt* (USPS 075-430) is the official publication of the Utah Amateur Radio Club, Incorporated, 699 E. South Temple Ste 100, Salt Lake City, UT 84102-1282. It is published monthly except August. Subscription is included with club membership at \$17 per year. Single copy price is \$1.50. Periodicals postage paid at Salt Lake City, Utah. Postmaster: send address corrections to *The Microvolt*, c/o Dick Keddington, 1783 Woodside Drive, Holladay, UT, 84124-1620.

Deadline for submissions is the 24th of each month prior to publication. Submissions by email are preferred (k7hfv@arrl.net), but other means including diskettes and typewritten submissions can be mailed directly to: Gordon Smith, 632 University St., Salt Lake City, UT 84102-3213. 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.

**Club:** 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 second Thursday of the month at 7:30 PM in the University of Utah's Warnock Engineering Building, generally in room 1230 or 2230.

**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, 1783 Woodside Drive, Holladay, UT 84124-1620.

**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.

## UARC 2012 Board

President: Clint Turner, KA7OEI	801 566-4497
Executive VP: Andrew Madsen, AC7CF	801 419-8378
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Field Day Chair: Brett Sutherland, N7KG	801 298-5399
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Repeater Engineer: Randy Finch, K7SL	801 556-7565
ATV Engineer: Clint Turner, KA7OEI	801 566-4497
Autopatch Engineer: Gordon Smith, K7HFV	801 582-2438

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## IRLP Information

For information on using the club's IRLP node on the 146.76 repeater, check <http://user.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://user.xmission.com/~uarc/announce.html>

We are grateful to the management of XMission, our Internet Service Provider (ISP), for the donation of this Web-Page service.



For account information go to:  
<http://www.xmission.com/>  
 Or call 801 539-0852



## The Microvolt

The Official Publication of the Utah Amateur Radio Club, Salt Lake City, Utah  
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### Steak-Fry and Swap Meet: July 14

Our July meeting will be UARC's annual steak-fry to be held Saturday, July 14. If you don't yet have reservations, there may still be time. The cost is \$10 per person and can be sent to the Secretary, Richard Keddington, KD7TDZ. (See inside front cover for contact information.) If you are a member of PayPal, you can get your reservation by addressing \$10 (or a multiple) to "uarc@xmission.com."

In addition to the full steak dinner, the event will feature a swap meet, (provided the attendees bring along some swappable material), a chance to see some HF mobile installations, and a rig clinic where you can see if your radio is working well and properly adjusted.

Location is Area 7 of "The Spruces" campground in Big Cottonwood Canyon. (Big Cottonwood is the canyon where the Brighton and Solitude ski resorts are located.) The mouth of the Canyon is at the intersection of Wasatch Boulevard and Fort Union Boulevard. One way to approach it is to take the 6200 South Exit from I-215. Once in the canyon (State Road 190) look for "The Spruces" turnoff on the right, about 10 miles up from the canyon mouth. If you reach the Solitude Ski Resort, you have gone too far. When you reach the entrance station, tell them you are with the radio group in Area 7.

People typically start arriving about 2 P.M. to check out the swap meet and have eyeball QSOs with other hams. Steaks will likely get started about 5 P.M. Consider bringing your own plate and silverware if you'd like more than paper and plastic. UARC President Clint Turner, KA7OEI, will have a service monitor set up so you can check out your transceiver and see if the audio is set up properly and the receiver sensitivity is up to snuff.

Some newcomers to HF have expressed interest in seeing some HF mobile installations and how some of the problems — such as good grounding, getting the antenna base high enough, and finding space for the rig — have been solved. If you have a functioning HF mobile installation, be ready to show it off.

### Latest News

#### Our Cover

Our cover this month is from UARC's Field Day entry near Payson Lakes. Nathan Sutherland, KD7YYN, is near the rotor for the A-3 Yagi, and President Clint Turner, KA7OEI, is below. The

inset shows Brett Sutherland, N7KG, Field Day Chairperson, and Rob McKinnie, AL7AW, preparing the feedpoint for a wire antenna. The Field Day operating event took place on the weekend of June 23 and 24. The event generally proved a success with many participants, both for

operating and setting up, and our score was greater than in recent years.

## **No August Meeting**

UARC does not meet during the month of August, so our next Thursday night meeting will take place Thursday, September 13, 2012. We will announce the program topic on the web and in the September *Microvolt* when it is determined. We still have hopes of getting Bob Heil, K9EID, for one of the fall meetings. The October program will likely be the annual homebrew night.

## **Words from the Prez:**

First of all, I'd like to thank everyone that took part in the 2012 UARC Field Day event — especially the many volunteers that helped to organize it, get things to/from the site, help with set up, operated the stations and, especially, the tear-down afterwards.

As you probably know from reading recent posts here and elsewhere online, Field Day is that once-a-year event where we take our gear to remote locations and do our best to make as many contacts under very busy/adverse conditions as possible, this being done in order to remind and train us as to what it might take should the need arise for any of us, as amateur radio operators, to operate in an emergency situation.

Our efforts this year really paid off as we had a better antenna setup than ever before as well as reasonable band conditions, which allowed us to do quite a bit better than we have in recent years.

Perhaps more importantly, we made a concerted effort to introduce and “Elmer” (mentor) those who are/were new to HF operation — or had been away from that aspect of the hobby for years — and have, hopefully, whetted their appetite for future operation, either at their own stations and/or next year's Field Day!

Of course, people don't go away from a Field Day without taking with them a few ideas about what might be done to make the next years' Field Days even better in terms of Elmering, operating, setup, planning, etc. and you might have seen comments go back and forth about that. Just two days after it finished (and while it was still fresh on our minds) the Field Day committee members met to discuss what went right, what went wrong, and what we might do next year to improve things — and if you have some ideas of your own, please let them be known!

So, consider this to be an invitation to be involved in the 2013 Field Day, either as a participant or, better still, one of the volunteers that works behind the scenes to make things happen!

Again, thanks and see you at the steak-fry!

73,

Clint, KA7OEI

2012 UARC President

## **Thanks from the Field Day Chair**

We had so much wonderful help at Field Day that I know I will innadvertently leave someone out. My apologies in advance. Many, many thanks to all those who helped setup, staff, operate and tear down Field Day, including:

Rick Asper, AC7RA  
John Brewer, N7MFQ  
Susan Brewer, N7OVG  
Ted Cowan, KC7PM  
Brenda Davis  
Dallan Evans, KE7SOM  
Samuel E Evans, KF7OQH  
Samuel B Evans, WE7NDN  
Dave Felgar, NJ7A  
Bruce Fereday, KF7OZK  
Matt ( Max ) George, NG7M



Jason Jensen, K7KKY  
Chuck Johnson, WA7JOS  
Richard Keddington, KD7TDZ  
Andrew Madsen, AC7CF  
Marvin Match, KA7TPH  
Gregg McArthur, W7GEM  
Rob McKinnie, AL7AW  
Dennis Nelson, N7FOD  
Lonnie Oaks, K7LO  
Laird D. Severinsen, WB7TGP  
Gordon Smith, K7HFV  
Alex Sutherland  
Nathan Sutherland, KD7YYN  
Tina Sutherland, KD7YVE  
Clint Turner, KA7OEI  
Brian Woodman, KC7JDS  
Glen Worthington, WA7X

## **W7UHP, SK**

A tragic accident took the life of a decorated Highway Patrol officer and amateur radio operator on Saturday, June 30. Aaron Beesley, W7UHP, was assisting a helicopter rescue near the top of Mt. Olympus when he took a fatal fall from a cliff, apparently while attempting to retrieve a medical pack. He had been on the force for 13 years.

UARC members may remember several years ago when Aaron gave us an interesting presentation on APRS — the Automatic Position Reporting System. Aaron was very active on APRS. He lived in Clinton, Utah.

Photos of the event by Brenda Davis, (daughter of Bruce Fereday, KF7OZK) can be found at <http://www.focusedframe.com/uarc> .

## **Tips for HF Mobile Installations**

By Brett Sutherland, N7KG

*(The following item was posted on the UARC e-mail reflector, <http://groups.yahoo.com/group/UtahAmateurRadioClub> on June 26. It seemed to carry information that might be useful to others, so we thought it worth publishing here. It was written in answer to "How can I make my mobile performance a lot better?" -Ed)*

"A lot better" is relative when it comes to HF mobile. A mobile is, for the most part, a compromise compared to what you can do at home. That said, I ran HF mobile for a number of years in, I think, four different installations. I never ran a mobile amp. I was always weaker than everyone else. There are exceptions with propagation, but in general you will not have as good a signal as others.

Lessons learned?

1. If you can, tune high bands, but it gets worse as you go lower, have lost your ground, or don't have a good ground to begin with. Undo your grounds,

clean them to bare metal and reinstall with the internal tooth locking washers. Then coat with a conductive grease like Alumilox or a spary lithium grease available from auto repair stores. The internal teeth bite better and sealing the grounding prevents it from oxidizing from air, water or salt.

2. Mobile installations take a lot of abuse. Make mounts extra beefy. For the same reason, buy/build stronger antennas.

3. Get as much height from the base of the antenna above ground as possible. I have had whips slap overpasses, but not often as they usually trail behind at an angle.

4. Tuners are lossy unless they are large. A tunable antenna is a better option. I have used screwdrivers and an Outbacker. The Outbacker works without a substantial mount. A screwdriver has a much greater wind load and requires a lot more effort to install, but is continuously tunable. A lower SWR at the expense of a radiated signal is a poor trade. Talk to K7HFV, Gordon, about the SWR myth.

5. If you suffer from ignition noise, open the hood of the vehicle, set a Walkman-type radio or transistor radio for AM and tune the radio for maximum noise. Wrap tin foil around the radio to attenuate it. I use headphones for this. Start sniffing under the hood. You can identify spark plug wires, wires that are radiating, body panels that are radiating noise and sometimes the exhaust is resonant. You can choke the wires, ground the panels or exhaust, replace plug wires etc. There is also the old method that only works for plug wires normally where you listen for the sparks you can hear with a bad plug wire. Normally they will go "tick, tick, tick, tick, etc". At night and in relative darkness you can also mist water from a spray bottle to promote the arc and can see it arcing. I haven't done that since I started using the transistor radio technique.

6. The whip really should have a corona ball on the end. If not, you will hear the discharge from the tip of the antenna under the right circumstances. Not a deal killer, but you will wonder where the random static noise is coming from.

7. Parking with the car turned off to work someone is generally a bad idea. At 100 watts the battery will die pretty quickly. A spare battery that the radio runs off of is a better solution. And....

8. Using a diode to isolate batteries doesn't work very well. The voltage drop is enough to keep the primary battery from charging fully. A charge

controller that intelligently switches between batteries for charging is a much better solution.

9. If you frequently travel the same route and it has power lines adjacent to the road you will never get used to the 60-Hz noise. As an aside, when everything is running right, you will be able to hear other cars with spark problems as they pass. The power lines don't ever pass. You listen to the noise for miles on end. In the middle of nowhere they aren't very well maintained.

10. Use a rubber grommet where power and coax come through a bulkhead.

11. Fuse the power line on the battery side of the firewall/panel that it comes through. If it dead shorts you blow the fuse on the source side of the short.

12. Never use coax with a foam dielectric. It will not survive mobile abuse well at all. It crushes easily. I use RG 213. Small coax runs easier, but doesn't last.

13. Don't mount your antenna on the passenger side of the vehicle — there are too many trees hanging over the road that don't get trimmed and can clean off/damage your antenna.

14. I preferred a large cross-needle SWR bridge. It was much easier to see when driving and minimized the distractions.

15. Alternator whine can be choked. If you end up replacing the alternator, opt for a higher amperage unit to help with the charging issues. Depending on how much you want to spend, you can do the ambulance mod approach with dual alternators.

16. I attempted mobile CW, but really am not a good CW op. I modded a computer mouse and used the left and right buttons. It worked and I didn't have to worry too much about it getting beat up, unlike a nice key. I never used one of the old J45 (?) knee straps.

17. Mobile logging is best done with a recorder, either dedicated or on a phone, etc.

18. In most states it is illegal to cover both ears with headphones. You can cover one ear. I used a smaller boom mic with a thumb operated switch and only covered the one ear.

19. If you use a remote control head you will want an external speaker. Under the seat works OK, but

can sound muffled. I never tried a DSP speaker and my radio did not have it built-in. This might have aided with some of the 60-Hz noise.

So, that is all I can think of at the moment. I don't monitor the reflector. Just happened upon this post. Should you have specific questions, feel free to email me.

Brett Sutherland, N7KG  
n7kg@arrl.net

## License Examination Schedule

### Opportunities to test for new or upgraded amateur licenses

Date	Day	City	Contact Person	Phone
07/11/12	(Wed.)	Clearfield	Mike Youngs, KK7VZ	(801) 573-3922
07/18/12	(Wed.)	Provo	Steve Whitehead, NV7V	(801) 465-3983
07/18/12	(Wed.)	St. George <sup>2</sup>	Gary O. Zabriskie, N7ARE	(435) 674-2678
07/31/12	(Tues.)	Salt Lake C.	Eugene McWherter, N7OVT	(801) 541-1871
08/04/12	(Thu.)	Salt Lake C. <sup>1,3</sup>	Gordon Smith, K7HFV	(801) 582-2438
08/15/12	(Wed.)	Provo	Steve Whitehead, NV7V	(801) 465-3983
08/15/12	(Wed.)	St. George <sup>2</sup>	Gary O. Zabriskie, N7ARE	(435) 674-2678
08/28/12	(Tue.)	Salt Lake C.	Eugene McWherter, N7OVT	(801) 541-1871

<sup>1</sup>Preregistration required. Check with the contact person before the test session.

<sup>2</sup>More information at <http://www.dixieham.org/meetings.html>

<sup>3</sup>More information at <http://utaharc.org/Exams>

## Member of the Month

### Bryon Holder, KF7UBS

*(Photo by K7RLS on page 8)*

By Linda Reeder, N7HVF

This month we are featuring Bruce Fereday, KF7OZK. It is interesting how Bruce got into amateur radio. Bruce has a friend who works for Hill Air Force Base in computer satellite communications networking. Bruce was really interested in satellite communications and wondered if there was any satellite communication in amateur radio. He researched it out and sure enough there are amateur radio satellite stations.

Bruce got busy and got the study materials he needed to get his license. Bruce has a neighbor who is an amateur radio operator, Dave Callister, N7OTK. Dave told Bruce there would be an amateur radio class starting April 15, 2011.

Bruce said he would have his license by then. Bruce went to Eugene McWherter's (N7OVT) test

session on March 29, 2011. Not only did Bruce pass the Technician test, but the General as well. Bruce is now working on his Extra. In fact, he will be taking the test tonight, May 29th, at Eugene McWherter's test session. Bruce passed the test. He now has his Extra class license. Bruce is going to try and get a call sign with his initials.

Bruce attended Field Day for the first time last year, 2011, at Payson Lakes. He made friends with Rian McKee, KF7QGY, who is also new to the hobby. Rian received his license the same time that Bruce did. Rian also offered his vehicle to bring up some of the needed items for Field Day. Rian was featured in the April *Microvolt*, 2012. Anyway, Rian and Bruce spent hours on the GOTA station and had a blast. They made numerous contacts all over the United States.

Bruce said a lot of people don't realize the work that needs to be done to put a successful Field Day together. Bruce said he will be helping Brett Sutherland, N7KG, with whatever needs to be done.

Bruce's favorite thing about amateur Radio is meeting people. He really enjoys getting on the low bands and rag chewing and getting to know people all around the world. He has a Yaesu FT-757.



Bruce and his Grandson

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Bruce is a member of UARC, 76ers, ARES, and RACES. Bruce really enjoys talking with the 76ers. Bruce is very active with emergency communications. On April 17th he participated with the Shakeout exercise.

Bruce enjoys photography. He has taken several pictures for our club news letter, *The Microvolt*. He took pictures of the April meeting which appeared in the May *Microvolt*. Bruce has also written articles for *The Microvolt*. He has written an article which will be in the July issue about the scouts collecting food for the food bank. Bruce also enjoys fishing.

Bruce works for the Hispanic Yellow pages. He translates the phone book into Spanish. Bruce and his wife, Anamarie, have three children, one daughter and two sons.

Bruce, congratulations on getting your Extra Class license.

