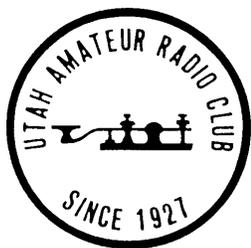




At the November meeting Linda, N7HVF, gave us a presentation on HandiHams and the services they provide for those with handicaps.

We will now be meeting in the new **Warnock Building (Room 1230, "Duke Classroom")** just to the east of the Engineering and Mines Building.

**December Meeting Topic: Elections
Plus
Portable and QRP Operations**



Volume 50, Issue 11, December 2007

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The
Microvolt

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Prologue

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

Meetings: The club meets each month except July and August. The meetings are held on the first Thursday of the month at 7:30 PM in the University of Utah Warnock Building, Room 1230, "Duke Classroom."

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. ARRL membership renewals should specify ARRL Club #1602.

Contributions: Monetary contributions are gladly accepted. Send directly to the Club Treasurer: Chuck Johnson, 1612 W. 4915 S. Taylorsville, UT 84123-4244. For in kind contributions, please contact any board member to make appropriate arrangements.

Repeaters: UARC maintains the 146.62- and 146.76- repeaters. The repeaters are administered by the UARC Repeater Committee. Comments and questions may be directed to any Committee member. The Lake Mountain repeater (146.76-) has autopatch facilities for Provo which are currently disabled due to abuse and for Salt Lake which is in need of reworking to be compatible with IRLP

Ham Hot-Line: The Utah Amateur Radio Club (UARC) has a Ham Hotline, 583-3002. Information regarding Amateur Radio can be obtained, including club, testing, meeting, and membership information. If no one answers leave your name, telephone number and a short message on the answering machine, and your call will be returned.

Publication: *The Microvolt* is the official publication of the club. Deadline for submissions to the *Microvolt* is the 10th of each month prior to publication. Submissions by email are preferred (uarc@xmission.com), but other means including diskettes and typewritten submissions can be mailed directly to: Telvin Mills, 6864 Beargrass Rd., West Jordan, UT 84084. 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.

UARC 2007 Board

President: John Brewer, N7MFQ	(435) 837-5646
Executive: VP: John Hays , K7VE	446-1899
Vice Pres: Gordon Smith, K7HFV	582-2438
Secretary: Dick Keddington, KD7TDZ	274-9638
Treasurer: Chuck Johnson, WA7JOS	268-0153
<i>Microvolt</i> Editor: Telvin Mills, KB6BYU	968-5089
Asst. <i>Microvolt</i> Editor: Bob Rollins, WB7DPA	942-2638
Program Chair: Dale Heisler, WJ7L	278-6458
Program Chair: Linda Reeder, N7HVF	364-7006
Imm. Past Pres: Roy Eichelberger, W7ROY	571-2447

Committee Chairpersons and Members

"Book Lady": Fred Desmet, KI7KM	485-9245
Historian: Ron Speirs, K7RLS	968-4614
Field Day Chair: Andrew Madsen, AC7CF	466-0744
Steak Fry Chair: Jed Petrovich, AD7KG	566-6277
Club Trustee: Brett Sutherland, N7KG	298-5399
Engineer: Randy Finch, K7SL	277-7135
ATV Engineer: Clint Turner, KA7OEI	566-4497
Board Liaison & Autopatch Engineer: Gordon Smith, K7HFV	582-2438
Provo Autopatch Host & ATV Engineer: Dale Jarvis, WB7FID	224-3405

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: www.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

December 2007

Elections Coming

It's time to think about who will lead the club in 2008. At the November meeting a nominating committee presented its proposed slate of candidates and the floor was opened for further nominations. As a result, the list is currently as follows:

- President: John Brewer, N7MFQ*
- Executive Vice President: John Hays, K7VE*
- Andrew Madsen, AC7CF
- Vice President: Gordon Smith, K7HFV*
- Secretary: Dick Keddington, KD7TDZ*
- Treasurer: Chuck Johnson, W7JOS*
- Program Chairperson: Jed Petrovich, AD7KG
- Linda Reeder, N7HVF*
- (Two to be elected for Program Chairperson)*
- Microvolt Editor: Tony Naef, KE7BBG
- Assistant Editor: Bob Rollins, WB7DPA*



* Incumbent

Nominations will be opened again at the December meeting. If you have anyone in mind for any of the offices, feel free to nominate that person at the December meeting. However, you must first ascertain that the person is willing to run.

Meeting Before the Meeting

There has been some discussion about a newcomers meeting before the meeting. The UARC Board has discussed this and it was determined to have a pre-meeting "Show and Tell." The Board discussed having a table near the back as you enter the classroom to bring your projects you would like to "Show and Tell" or items you have questions with to the meeting beginning at 7:00 PM. This will allow you to show off what you have been working on or ask your Ham related questions from others

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Special points of interest:

- ◆ *Next UARC Meeting December 6th—Elections plus Portable and QRP Operations*
- ◆ *UARC Club Officer Elections—December 6th.*
- ◆ *Utah Hamfest—July 12, 2008, Bryce Canyon*



Member of the Month

This month we are featuring Howard Armstrong, KE7KNN. Howard received his Technician license in January of this year. In August of this year, Howard attended HandiHam radio camp and obtained his General class license. Howard said Gary Gordon, K6KV, from Saratoga, California, is a fantastic instructor. Howard is now studying hard on getting the Extra class license. He is planning on attending another HandiHam camp where he will have another great instructor, Dr. Dave Justis, KNOS, from Minnesota.

Even though Howard is new to the hobby he has always been interested in radio communications. Howard said he is a fugitive from CB radio. In 1964, Howard was very active in CB radio. Those were the days you had to have a license to operate a CB radio. There was no test; you just had to send an application to the FCC. Howard was interested in amateur radio and he was going to take a class at The Foundation for the Junior Blind in Los Angeles, California. The problem was they could never get an instructor to stay long enough to teach the class. Howard had a really close friend who had his ham license, Henry Schmidling, WA6RJA, who is now a silent key. That is why it was so important for Howard to get his ham license.

Howard was born and raised in Southern California. He has been partially sighted all of his life. He has worked for a plumbing company as a



plumber for a very long time. Howard even helped build houses. When Howard and his wife moved to Salt Lake City he got a job at Home Depot in the plumbing department. Howard also worked for the LAUSAID Unified School District 4C Command Control Communications captain of security. He also worked for Hughes Aircraft Company on a special security program for 14 years. While Howard was working for Hughes Aircraft Company, Boeing bought them out. It was after Boeing purchased the company that he moved to Salt Lake City, Utah.

Howard's favorite thing about amateur radio is emergency communications. Howard has been active in emergency communications for a very long time even when he was involved in CB radio. He has worked closely with the local police and fire department. Howard was involved in the earthquake in 1971. He helped out with large brush fires. He was involved with

search and rescue and helped look for lost children. He was involved in an emergency group in California called React and another emergency group in Palo Verde, California, called SCRAM. He has been involved in other public service agencies as well.

Howard says he also likes the social part of amateur radio. He really enjoys coming to our ham club meetings. He was attending the meetings before he got his license. The first meeting that Howard and his wife Arlene attended was our Homebrew night in October of last year. They have been coming to all of the meetings since then. He also enjoys going to the HandiHam camp.

Howard, we wish the best in all of your endeavors especially getting that Extra class license.

73, Linda Reeder, N7HVF

The UHF Connector



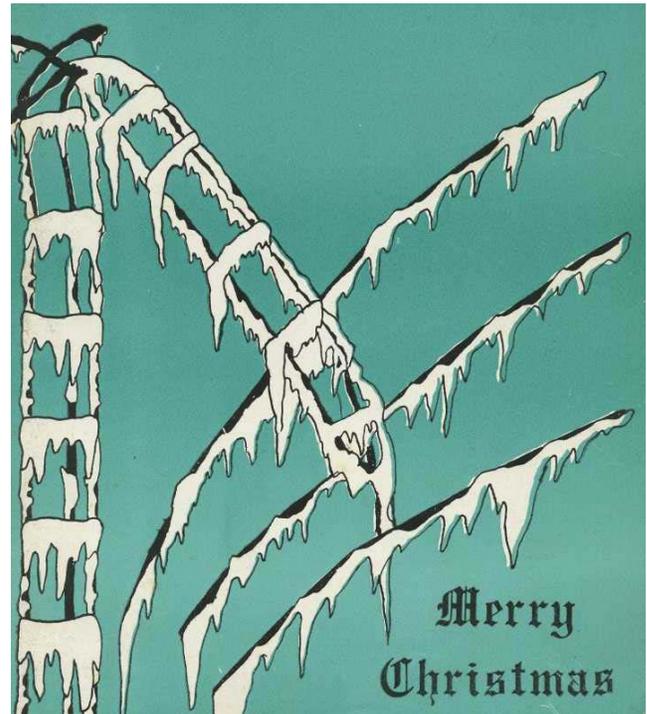
The **UHF type connector** saw its conception in the early 1930's, a time when VHF/UHF technology was quite new. The forefathers of VHF were in many cases Amateur radio experimenters, most with engineering and technical backgrounds. They began experimenting and working the VHF frontier around 1926. Soon thereafter research into FM radio and Television began and out of this era came the then named UHF connector. Manufacturers of UHF plugs and receptors all state that this type connector is of generally **non-constant (characteristic) impedance** and is suitable for use up to 200 or 300 MHz only, depending on production quality. They also state that the UHF connector can be used up to 500 MHz with a cautionary note of reduced performance.

The so named UHF connector from the past is not really suitable for use above 300 MHz at all. Perhaps the exception to this would be when a cheap and rugged system is required where loss and good signal to noise ratio is of little concern. However, even for frequencies as low as 144 MHz, if low loss and good signal to noise ratio are very desirable, the use of UHF type connectors is not recommended. The UHF connector still has a place in many applications where a robust but economical RF connector is required, but for serious applications its use should be limited to below 100 MHz. The N type is far superior in performance, and it should also be noted the BNC type connector is similar in performance to the N type, but has the disadvantage of being less rugged.

The **UHF connector** is a pre-World War II threaded RF connector design, from an era when UHF referred to frequencies over 30 MHz. UHF connectors are generally usable

through what is now known as the VHF frequencies and can handle RF power levels over one kilowatt. The most popular cable plug and chassis-mount socket carry the U.S. military nomenclatures **PL-259** and **SO-239**, respectively. The PL-259 can be used with large diameter coaxial cable, such as RG-8/U and RG-9/U, and the smaller diameter RG-58/U and RG-59/U with an adapter sleeve. Technically, "PL-259" refers to one specific mechanical design, but the term is often used for any UHF cable plug. The thread is 5/8 inch 24tpi UNEF standard. The center conductor jack on the SO-239 will also accept a banana plug.

UHF connectors were replaced in many applications by designs that have a more uniform impedance over the length of the connector, such as the N connector and the BNC connector, but they are still widely used in amateur radio, citizens' band radio, and marine VHF radio.



The Mother of All Backup Generators

No one can deny that having a generator to provide a little backup power can save the day during a power outage caused by a storm or some other problem. But this one ... well, take a look.



The 15 MW generator at Diesel House in Copenhagen

Perhaps you have seen some large generators in use at different transmitter sites. However, visitors walking into the generator room at the Diesel House Museum in Copenhagen, Denmark encounter a generator that is almost hard to believe.

Built in 1932, this generator was used by the Copenhagen municipality to generate up to 15,000 kilowatts of power. It was the largest diesel engine in the world when it was built – and for the next 30 years.

It has been officially decommissioned since 2003. However, they still start it on the first Sunday of each month.

By the way, in case the enormity of this generator has not quite sunk in as yet, notice the doorway on the left side of the picture. It sort of puts things in perspective.

Want to see this beauty in action? Browse over to www.dieselhouse.dk/index_uk.html Click on “The large engine” at the bottom of the page. (Notice where the operator’s position is situated.)



The engine is a double-acting two-stroke crosshead engine with the following specs:

Production Name: DM884WS-150

Production Year: 1932

Output: 15,000 kW, 22,500 horsepower

Revolutions: 115 per minute

Engine Size: 8 cylinders

Cylinder Diameter: 840 mm (33 inches)

Stroke: 1,500 mm (59 inches)

Fuel Consumption: 2,880 liters per hour (761 gal)

Weight: 1,400 tons

Size: 24.5 meters long, 12.5 meters high (80' x 40')

Repeater News

There have been several recent changes affecting the repeater landscape along the Wasatch Front.

50/440 MHz Link: WA7X informs us that the 53.15 MHz six-meter repeater is back on the air and is now linked to a new 70-cm repeater. The pair operate near Farnsworth Peak on the Channel 13 site. The linking should make it easier for the occasional six-meter operator to find someone to work. The six-meter repeater is on 53.15 MHz with a negative 1-MHz offset and requires a CTCSS tone of 146.2 Hz. The 70-cm machine is on 448.175 MHz and requires a CTCSS tone of 127.3 Hz. The 70-cm coverage will be restricted to mostly the Salt Lake Valley owing to its antenna, an east-pointing Yagi. The six-meter repeater uses an omni-directional antenna but has some local blockage on the repeater site toward Ogden.

First SLC 900-MHz Repeater: The first repeater covering the Salt Lake Valley on our 902-MHz band is now on the air. It is on 927.1125 MHz and requires a DCS code of 432. It is the work of Darin Watrous, W7XDX (whose call it signs), and Kelly Anderson, KV7V. The offset for this band is -25 MHz. The repeater is located in the avenues north-east of downtown Salt Lake City giving coverage principally in the Salt Lake Valley. There is virtually no amateur-market equipment available for this band, but EBay frequently lists used Motorola commercial gear at attractive prices.

Levan Peak: A new repeater has been added to the Intermountain Intertie (also known as "The Snowbird System") on Levan Peak. Coverage includes the I-15 corridor from Santaquin through Filmore as well as large parts of Juab and Sanpete counties. The repeater operates on 145.27 MHz and requires a CTCSS tone of 103.5 Hz. Note that this is the same frequency as the Scott's Hill repeater, also part of the Intertie. There is likely a small overlap area between the two. The 103.5 tone frequency is used on Levan Peak instead of the more common 100.0 Hz so that mobiles may choose the repeater they are closest to and avoid simultaneously bringing up both repeaters. There is yet another 145.27 repeater on the Intertie in southern Idaho, so users are advised only to use this frequency in areas where a particular '27 repeater is clearly their closest access to the system.

Snowbird Down: The Snowbird 147.18 repeater continues to be off the air due to lightning damage. This site is also a hub for the Intermountain Intertie and some Intertie connectivity is also affected by the outage. Watch for '18's return. If you currently can't bring it up, it is likely not your equipment at fault.



December Meeting: Elections plus Portable & QRP Operations

Thursday, December 6th, 7:30 PM, Room #1230

December is the chance to determine where the club is going to go in 2008. Be sure to attend and help elect a team that will lead the club in the coming year. The meeting will be on Thursday, December 6th.

Our program will feature QRP and portable operation by Dr. Bob Armstrong, N7XJ, from Manti, Utah. Several years ago, Bob gave us a very well received presentation on the history of QRP equipment and how one could compete in a contest using temporary antennas and equipment light enough to backpack.

Bob is an active member of the Adventure Radio Society (www.arsqrp.com), a group devoted to operating from exotic places with emphasis on getting to those places under one's own power. With emphasis in many quarters on tall towers, large antenna arrays, and high power on HF, one might wonder how one could possibly work anything substantial using equipment one could carry. Bob will show us how it's done. His credentials include making the most Field Day points of any Utah station during several years.

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(s) after the meeting":

A chance to enjoy pizza or other gastronomic delights with other hams. One group goes to Litza's Pizza, 716 E. 400 South. The meeting before the meeting for those who can leave work early enough to get there by 5:15 PM will be held at "Charlie Chow's Dragon Grill," 255 E. 400 South

Exam Schedule

11/07/07 (Wed.) Clearfield
Contact: Mike Youngs, KK7VZ
Phone: (801) 573-3922

11/14/07 (Wed.) Provo
Contact: Steve Whitehead, NV7V
Phone: (801) 465-3983

Note: Provo session on second Wednesday of the month in November only

11/15/07¹ (Thu.) Roosevelt
Contact: R. Chandler Fisher, W7BYU
Phone: (435) 722-5440

11/21/07 (Wed.) St. George
Contact: Ron C. Sappington, WI7Z
Phone: (435) 673-4552

11/27/07¹ (Tues.) Salt Lake City
Contact: Eugene McWherter, N7OVT
Phone: (801) 541-1871

12/01/07¹ (Sat.) Salt Lake City
Contact: Gordon Smith, K7HFV
Phone: (801) 582-2438

12/08/07 (Sat.) Logan
Contact: Roberta Lofthouse, KJ7LQ
Phone: (435) 245-6632

12/19/07 (Wed.) Provo
Contact: Steve Whitehead, NV7V
Phone: (801) 465-3983

(Last Tuesday test in Salt Lake City omitted in December)

01/16/08 (Wed.) St. George
Contact: Ron C. Sappington, WI7Z
Phone: (435) 673-4552

11/16/08 (Wed.) Provo
Contact: Steve Whitehead, NV7V
Phone: (801) 465-3983

01/17/08¹ (Thu.) Roosevelt
Contact: R. Chandler Fisher, W7BYU
Phone: (435) 722-5440

01/29/08¹ (Tues.) Salt Lake City
Contact: Eugene McWherter, N7OVT
Phone: (801) 541-1871

¹ Pre-registration required. Contact the contact person prior to the examination date.

For more detail either call the contact or checkout the information on our webpage:

<http://www.xmission.com/~uarc>