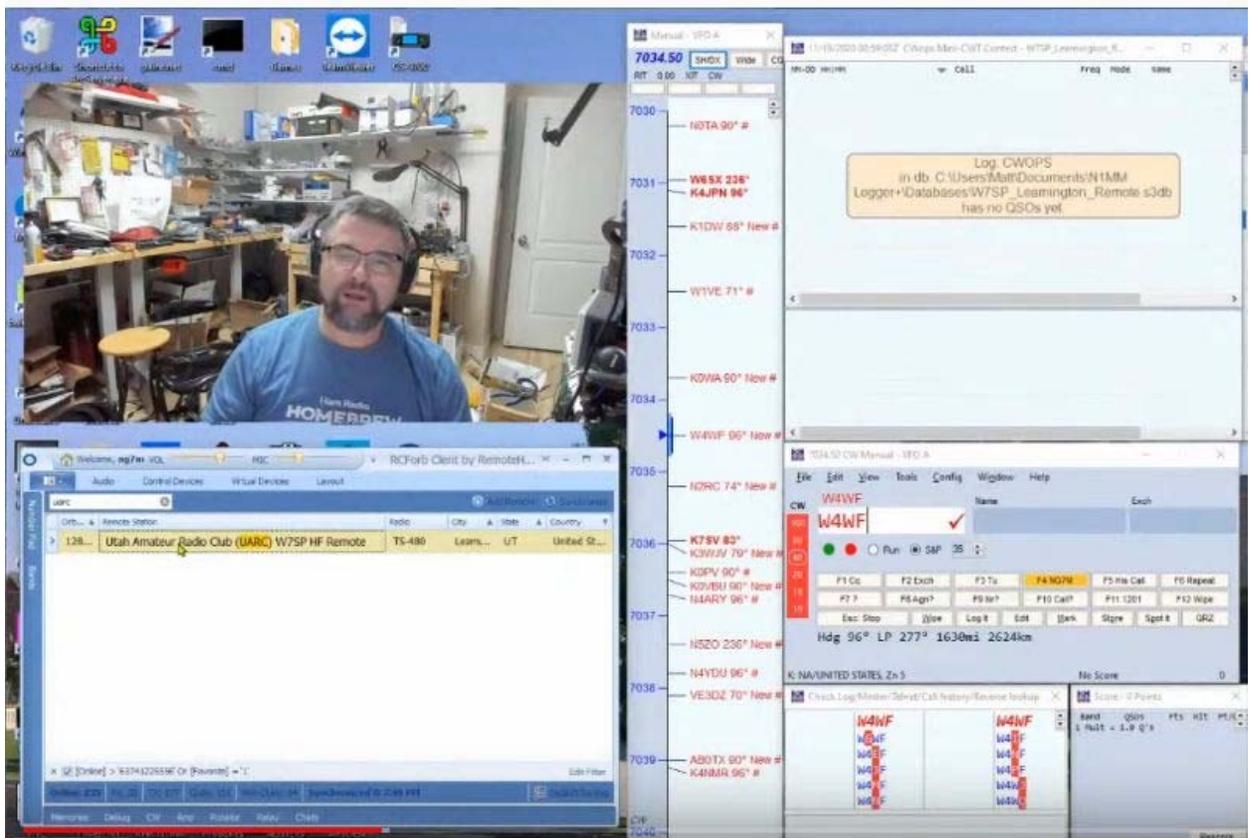


The Microvolt

February 2021



SO2K Remote QSOs	Mults	Op	Time	Score	Club	
X	167	162	1	27,054	TCC	
X	161	144	1	23,184	TCC	
	122	122	1	14,884	NCC	
X	X	117	115	1	13,455	KCC
X		119	113	1	13,447	YCCC
X		110	109	1	11,990	DpOxOC
X		120	96	1	11,520	PVRC
		107	107	1	11,449	SMC
X		108	102	1	11,016	PVRC
		110	100	1	11,000	TOXS
X	A	105	99	1	10,395	SMC
X		96	92	1	8,832	MRRC
		97	88	1:00	8,536	FRC
		95	88	1	8,300	KCCC
		93	89	1	8,277	FCO
		87	87	1	7,369	FCO
X		86	81	1	6,968	DFWCO
		83	79	1	6,557	FCO

Prologue

Publication: *The Microvolt* (USPS 075-430) is the official publication of the Utah Amateur Radio Club, Incorporated, 632 S. University Street, Salt Lake City, UT 84102-3213. It is published monthly except August. Subscription is included with club membership at \$20 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 Tom Kamlowsky, 4137 Clover Lane, Salt Lake City, UT, 84124-2711.

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: Tom Kamlowsky, 4137 Clover Lane, Salt Lake City, UT, 84124-2711.

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, sometimes in 2250 or 105.

Membership: Club membership is open to anyone interested in amateur radio; a current license is not required. Dues are \$20 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 \$20 may obtain a membership without a *Microvolt* subscription for \$12. Send dues to the Club Secretary: Tom Kamlowsky, WA7ZRG, 4137 Clover Lane, Salt Lake City, UT 84124-2711. Let the Secretary know if you prefer the electronic edition of *The Microvolt* instead of the printed version.

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 2021 Board

President: Morris Farmer, AD7SR	801 278-4966
Executive VP: Lonnie Oaks, K7LO	801 255-1225
Vice Pres: Bruce Fereday, KF7OZK	801 883-9428
Secretary: Tom Kamlowsky, WA7ZRG	801 505-9134
Treasurer: Chuck Johnson, WA7JOS	801 268-0153
<i>Microvolt</i> Editor: Gordon Smith, K7HFV	801 582-2438
Asst. <i>Microvolt</i> Editor: Rick Asper, AC7RA	801 865-1693
Program Chairperson: Robert Jelf, KG7OHV	385 252-7900
Program Chairperson: Mary Jelf, KG7QNG	385 347-7900
Imm. Past President: Clint Turner, KA7OEI	801 566-4497

Committee Chairpersons and Members

Bookseller: Rick Gregory, KG7GOW	801 582-7783
Historian: Ron Speirs, K7RLS	801 904-3587
Field Day Chair: (To be determined)	
License Trustee: Brett Sutherland, N7KG	801 298-5399
Repeater Engineer: Clint Turner, KA7OEI	801 566-4497
Autopatch Engineer: Gordon Smith, K7HFV	801 582-2438

Contents

Latest News.....	3
Member of the Month.....	5

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://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
Volume 64, Issue 2, February, 2021

Latest News

February (on-line) Meeting: *From Sun to Earth to Ionosphere What Causes Propagation?*

If you get on 40 meters regularly you discover that, at some sessions the strong signals are coming in from Idaho, and at another time (and, perhaps, another day), strong signals are coming from Japan. What causes things to change? And, for that matter how can radio signals get to places halfway around the earth with so much of our planet in the way?

The next (on-line) UARC meeting, Thursday February 11 at 7:30 P.M., will give some insight into how radio propagation works. Ron Wilcox, KF7ZN, will be telling us something about how the sun interacts with our atmosphere and somehow lets us send radio waves over non-line-of-sight paths. He will help us understand some seemingly cryptic terms like CME, K-index, and solar flux, and how they affect radio propagation.

You may remember Ron from our December meeting on DX history. Ron has been active on the ham bands since 1984 but took a bit of vacation from 1993 to 2014 after a move to Denver. Other licensed members of his family are Allen, KA7VIO, and Shawn, N7KFI.

To watch the meeting and even ask questions, go to:

<https://www.youtube.com/c/UtahAmateurRadioClub>.

You can start watching soon after 7 P.M. to make sure you have found the right place.

Except for July and August, UARC meetings are held on the second Thursday of each month at 7:30 P.M.

Our Cover

Our cover this month has some images from the January meeting featuring a demonstration of using UARC's remote station for the rapid succession QSOs needed for contesting and award seeking, even on CW. The presenter, Max George, NG7M, tells us:

“Utah's percentage of HF operators is woefully low when it comes to working contests and just in general / low HF operator count.”

Max has made more than 20,000 QSO's in the last three years. He comments: “I laugh when I hear guys say the HF bands are dead.”

He makes an interesting offer: If anyone starts now to get the Worked All States (WAS) award using either (or both) of the UARC remote stations, upon completion of the award Max will contribute \$500 to ARRL in the name of the operator. The availability of the remote stations makes HOA's no longer a valid excuse.

Technician and General Classes

Our UARC President, Morris Farmwer, AD7SR is starting classes this month for prospective Technician and General class operators. He tells us that both classes are now full. For those still interested, he will start another set of classes in March. It may also fill, so if you are interested, it would be wise to sign up soon. There is no charge for either class. Get in touch with Morris at <mailto:ad7sr@arrl.net> for more information.

License Classes from Orem

Noji Ratzlaff, KN0JI, has announced the availability of amateur license classes during 2021. Initially, the classes will be taught on line using Zoom. If it becomes more practical later in the year, they may switch to an in-person format in Orem. There is no charge. The January Technician test has already started but others may still be available.

To register, email Noji Ratzlaff at nojiratz@hotmail.com, and please include your name, your cell number, your town of residence, and your email address (if you're emailing in behalf of another). "Our limited account will allow us to handle up to 60 attendees per course, which should accommodate most who want to participate. No pre-requisites required to attend any course; in other words, you can register for the Extra course, even if you have no license at all, but need a good sleeping aid, for example."

Dates for 2021 License Classes in Orem						
All Sessions run from 6:30 to 8:30 P.M. on Tuesday evenings.						
License Class	Run	Ses 1	Ses 2	Ses 3	Ses 4	Ses 5
Technician	1	1/19/21	1/26/21	2/2/21	2/9/21	
	2	5/18/21	5/25/21	6/1/21	6/8/21	
	3	9/21/21	9/28/21	10/5/21	10/12/21	
General		3/23/21	3/30/21	4/6/21	4/13/21	
Extra		7/13/21	7/20/21	7/27/21	08/3/21	08-10-21

FCC Discourages Illegal Radio Use

Prior to the January 6 assault on the nation's capital, based on things seen on social media, the FCC made an announcement that use of Amateur Radio, Citizen's band, or GMR to facilitate a crime was a clear violation of rules.

Annual Financial Report for 2020

Submitted by Chuck Johnson, WA7JOS,
UARC Treasurer

Income	
ARRL Dues	707.00
Book Sales	1,877.65
Sold Equipment	152.55
Dues	5,676.00
Interest Income	181.83
Total Income	8,595.03
Expenses	
Administrative	-313.11
ARRL Memberships	-821.33
Books Bought	-610.89
Insurance	-200.00
Meeting Expense	-338.90
<i>The Microvolt</i>	-1895.07
Fees	-213.34
Repeaters	-379.38
Sales Tax	-224.09
Steak-Fry Expenses	-21.98
Total Expenses	-5,018.09
Net Income	3,576.94

Thank You

Your editor was quite surprised to hear his name announced at the December meeting as the first "Member of the Year." I wanted to respond in last month's *Microvolt*, but we just plain ran out of space. I am honored and wish to thank those who suggested my name. I hope that everyone will give some thought to future recipients and allow the award to live on. We certainly have many members who have contributed much time and effort to the club and to the hobby.

“QSO Today” Virtual Ham Expo

Although many of the large national conventions have been canceled due to Corona virus danger, March 13 and 14 will be the dates for an on-line substitute. The “QSO Today” expo will include speakers, panel discussions, kit-building workshops, and Manufacturer’s displays. One of the speakers will be ex-Utahan Ron Jones, K7RJ, whom many of us know.

It is said that one can save thousands of dollars since one doesn’t have to worry about travel, food, and lodging! Early Bird Tickets are just \$10 (to help cover the cost of this event, \$12.50 at the “door”) and include entry for the live two-day period as well as the 30-day on-demand period.

One of the “Speaker Tracks” will involve Amateur Radio satellites. Topics will include Introduction

to Satellites, Getting on the Air, How to Enjoy Space Station Contacts.

For full details visit:

<https://www.qsotodayhamexpo.com/>.

KA7OEI Now Famous

Clint Turner, KA7OEI, a recent UARC past-president, recently appeared on the popular “QSO Today” podcast. Clint has gone to some new frontiers by being active on new bands and modes and is now becoming famous for the “Nothern Utah SDR” near Corinne. It is rated number three in the world. It is still undergoing upgrades and is already inviting users from all over the world.

Check out the podcast at:

<https://www.qsotoday.com/podcasts/ka7oei>.

Member of the Month

Max George, NG7M

By Linda Reeder, N7HVF

Max, NG7M, remembers being fascinated with radio growing up in Roy Utah, (1970’s timeframe) having access to a desktop tube-based shortwave receiver. As he turned the dials and knobs, not really understanding the difference between one frequency and the next, those differences revealed the mysterious sound of Morse Code, AM stations, and possible SSB amateur radio activity. At the time, Max had no idea this would plant in him an interest in radio that would have to wait until 1994 before he would realize the real magic of what is possible with amateur radio.

Hearing a random comment or reference to amateur radio over the years kept amateur radio on the back shelf of Max’s mind. The real catalyst came in the early 90’s from an Ogden neighbor, Rick Johnson, N7GYR. Max was 30 years old at the time and something clicked sparking his interest in getting licensed. Right from the start he remembered those mysterious CW signals from the 1970’s on that

radio in the bedroom (which he wishes he still had!). In 1994, the wait to get your license/ticket after passing an exam was 7-8 weeks. During the wait after passing his Technician exam, Max started learning Morse Code. He learned the letters, numbers, and prosigns based on the sound as much as possible. He also spent some time helping with some classes held at WSU, organized by the Ogden Amateur Radio Club, OARC.

His first callsign was KC7DWP. He soon started studying the General class question pool and continued to work on learning Morse Code. The CW obsession was stronger than studying for the General exam. At one point, he was at a testing session in Ogden while they were giving the code exam element. He remembers thinking “Let’s give it a try.” He passed the five wpm exam easily enough, but for kicks and giggles tried the 20-wpm exam and passed it by the skin of his teeth. At this point Max was a Technician licensed ham holding a CSCE for

the 20-wpm code element. Now, he just needed to buckle down and plow through the General, Advanced, and Extra class written exam material, prepare for those tests and pass them.

The real drive to reach the Extra class license came after passing the General and then studying on his own for the Advanced and Extra class exams. Within a month after passing the Advanced and Extra class exams and submitting of the CSCE's to the FCC, he skipped from General to Extra. To this day the NG7M FCC record shows a previous license as General with no record of ever holding an Advanced class license. The jump to Extra returned a callsign of AB7GM, from the FCC callsign pool.

After reaching Extra and getting the 2x2 callsign, self study of the code continued and somewhere along the way Max picked up a used Heathkit SB-102 HF rig and threw up a dipole off the roof of his Ogden home. It was pure magic pounding out his first CW QSOs with a straight key and that Heathkit rig. (He wishes he had held onto the SB-10.) Just imagine, a wacky makeshift 40-meter dipole (hardly close to resonance), its apex at the chimney on the house, being fed with cheap RG-58, and its legs running to the fence corners in the backyard. That was all it took. With this setup, Max was bouncing invisible signals off invisible layers of the earth's ionosphere. He was communicating with other hams all over North America and beyond (like a CW Buzz Lightyear!). Talking into a microphone was fun too, but anyone could do that. This CW thing on HF was the bee's knees!

At a 1995 Ogden Amateur Radio Club (OARC) Field Day entry up near Monte Cristo campground (the gravel pit area), Max wanted to work some contest stations and plodded along as best he could having never seen someone work stations like a seasoned CW operator could. As luck would have it, Jim, W7CT (N5CT at the time), stopped by the Field Day setup and showed Max how it was done! Jim's command of CW operating thoroughly blew Max's mind. He was fascinated how someone could just casually work stations one after another and carry on commentary at the same time he was

describing the process. Jim was logging by hand, working stations, and probably logging at a rate of 100-150 stations per hour. This started a life-long friendship between Jim, W7CT, and Max which continues to this day.

The rest is pretty much history. The love of HF, CW and contesting as a challenge was lit. In 1996 when the FCC reinstated the vanity callsign program (it cost \$\$\$ back then to apply for a vanity call by the way...) Max researched and submitted a request to get NG7M as his 2x1 callsign, the one that he still holds today. The 7GM is a leftover from AB7GM and that was a part of the reason for the selection of NG7M, plus the fact that NG7M in CW flows like butter. The 2x1 call is great for prefix-oriented contests as there are only 26 callsigns with the NG7 prefix.

Up through the year 2000 timeframe Max found out what a rookie he was and how poor he was at copying code. However, Jim and a couple of other soon-to-be elmers: Dave Fischer, W7FB; and Alan Brubaker, KO6X/KO7X (now an \overline{SK}), started to teach Max the ropes. Code is like a language. When you think you know it from taking some classes in school, and then are tossed into the country of origin of the language, you learn very quickly how much you *don't* know. Max will always be grateful to W7CT, KO7X, and W7FB for all the help and encouragement along the way. At the end of the day, the student's dedication and time is what pays off. Max is convinced that anyone who puts in the time that he did in CW operation on the air and code practice off the air, would reach the same level or higher than what Max has achieved.

Staying up all night in multiple world-wide DX oriented contests down at KO7X's shack in Draper Utah paid off. Spending 5 to 10 or more minutes at a time trying to figure out those odd sounding CW callsigns from Europe was tough. Slowly, over time, you get better and better and progress is made. Max's best advice to a would-be CW operator is to beg, borrow, or steal an HF rig, throw up any antenna you can, get on the air; and start making contacts. Rag-chewing and operating contests are

the way to go. Put the time in and you will not be disappointed with the results. With organizations like CWOps (CWops: Celebrating the unique art form of Morse Code) and others, CW is more alive today than it ever has been. Contest scores and the number of CW logs submitted in contests continues to increase year after year. CW is here to stay. Casual CW operating is alive and well too. You can always find someone to make contact with on CW.

Max loves all aspects of amateur radio, but clearly his first love is with the magic of HF and building and improving a home station that allows you to communicate around the world on a regular basis. A few highlights of NG7M's pursuit of life-long operating awards, as of this writing, include: 7-band DXCC, and 9-band Worked All States (WAS). (He has four states to go on six meters for a VHF WAS). Many of these confirmed contacts happen naturally if you put the time in and simply operate. As of late it's been fun for Max to proactively chase DXCC totals and try to chase W7CT's totals of confirmed DXCC entities. (Jim has worked them all.) It's a lifelong chase and it feels like he will never catch up to the top DX'ers in the state.

As far as CW contest accomplishments, in the 2010-2012 timeframe Max has operated N3RS's station in Pennsylvania many times in world-wide DX contests, thanks to a recommendation by W7CT who knows N3RS, N3RD, W8FJ and others. These were multi-op two-station efforts and these hams take the game very seriously. Operating at this level with a serious team at top competitive HF contest stations is quite the learning experience; and being invited back to additional contests is quite an honor. The good people you meet and the life-long friendships that are created are the big wins.

Another friendship was forged due to W7CT's connections was with NK7U, Joe Rudi, operating contests at his big station in Baker City, Oregon. Joe Rudi is a lifelong ham who just happens to be a famous MLB player. That might ring a bell for the old timers. You never know who you will end up rubbing shoulders with in amateur radio, especially via HF and contest operations. Max also holds

several HF contest records in the, now, very popular 7th Area QSO Party which takes place every year in June. These efforts have included Darryl, K7UT; Jim, W7CT; and Graydon, N7RXL. Another fun and memorable activity was helping with UARC Field Day in 2012. Operating the CW station, he set up in the 3A effort, and making sure it stayed active for the duration. It helped UARC reach their highest point total ever reported in a Field Day event.

If you want to learn a little more about Max and his HF / CW / SSB / RTTY / Digital escapades, you can find a number of YouTube videos he has posted on his channel. Live operating, tutorials about DX clusters, skimmer servers, contest software plus station automation, station setup and grounding can be found here: <https://www.youtube.com/ng7m>. (The video presented at the January UARC meeting is also posted.) There is even a recent quad-copter video station tour of his smaller suburbia lot with NG7M station antennas.

Max is a strong supporter of the ARRL and a Life Member of the League. He highly encourages others to join and support ARRL efforts. The ARRL and the amateur community need to work hard to keep the hobby going as we work to protect and take advantage of the RF spectrum to which we have access. Generously, supporting your local club financially along with ARRL is a great start. The beauty of amateur radio is in the vast number of special interests it encompasses. Max will never get tired of the magic related to HF and being in control of bouncing invisible electromagnetic energy off the ionosphere around the globe. Being able to communicate with 1000's and 1000's of hams all over the globe without physical infrastructure is fascinating. It's all about your station and the station on the other end of the QSO in any part of the world with no wires in between. A 50- or 100-mile QSO on VHF FM is really cool, but a 10,000-mile QSO on the other side of the globe with CW is priceless fun!

Max also wants to encourage other licensed operators to give back whenever possible. The ability to do this will eb and flow over the years, but

if you can, do something to make the hobby better and pay it forward. Learn something new in the hobby and share your experience. Try something out of the norm and teach others. Create and post videos to teach others what you know, host an online amateur radio related service etc. Do your best to light a fire in someone new to the hobby. As Max mentioned earlier, donate financially, if you can, to good amateur radio related causes, whatever they might be. There are many different ways to make a difference. NG7M hopes nobody will get stuck in a “one trick pony” rut and convince themselves it takes too much time, or it’s too expensive. If there is a will there’s a way. He says excuses are like armpits, everyone has two and they both stink!

If you have questions about the UARC presentation Max gave related to the Leamington UARC remote you can contact him at: ng7m@arrl.net and he will do his best to answer your questions or point you in

The Microvolt (USPS 075-430) is published monthly except August for \$20.00 per year or \$1.50 per issue by the Utah Amateur Radio Club, 632 S. University St., Salt Lake City, UT 84102-3213. Periodicals Postage Paid at Salt Lake City, Utah. POSTMASTER: Send address changes to *The Microvolt*, c/o Tom Kamlowsky, 4137 S Clover Lane, Salt Lake City, UT 84124-2711

the right direction. The remote stations setup for use by members of UARC are amazing resources (now including WA7X’s remote station). Don’t be shy; these stations won’t operate and make contacts on their own! Get access and learn how to properly use these resources if you are an aspiring HF operator.

Thanks, Max, for letting me interview you.
—Linda Reeder, N7HVF.



Max George, NG7M, at the NK7U station in Oregon (2010) for CQWW