The *Microvolt*

May 2020

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: Ton 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 2020 Board

President: Morris Farmer, AD7SR	801 278-4966
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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
Remote Receivers in the Days of *(social)* Distancing.....5
More News.....6
Member of the Month.....7

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

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Latest News

May On-Line Meeting

With COVID-19 issues still making a large group meeting both unwise and out of compliance with county and/or state rules, our May meeting will be held on-line much as the April meeting was handled.

Our on-line meeting for April seemed to be successful so we will try the same plan for May.

Our program for the May meeting will be about Web-Based Software-Defined receivers. Who would have thought that one antenna could simultaneously serve over 80 users at once, each in a different part of the world, and each wanting to listen to a different mode in a different part of the radio spectrum? With modern-day computers having enough power to decode radio frequencies, this is now being done in multiple locations around the world, open to anyone, free of charge.

Requiring only a web browser, anyone can use a WebSDR system to listen to their own, virtual receiver to make use of a good antenna at a quiet listening site. Whether it be for casual listening, participation in nets, serious operation or testing/comparing your own station, a WebSDR can be an asset to your ham shack!

In the upcoming meeting the folks from the Northern Utah WebSDR will discuss WebSDRs — how to use them and how they work.

The principal presenter will be Clint Turner, KA7OEI, the principal designer and builder of such an installation in the neighborhood of Corinne, Utah. Clint is a past President of UARC and is currently our repeater engineer for the club's repeaters on 146.62 and 146.76 MHz. Clint is also, at this writing, the only Utahn to have been heard transmitting on our new 630- and 2200-meter bands.

If you would like to study the Northern Utah SDR or experiment with it ahead of time, check out www.sdrutah.org. One of the reasons it can hear things that we can't hear on our home receivers it the 94-foot tall antenna that has 6 dB of gain in all directions.

The May 14 virtual meeting will begin at the normal UARC meeting time of 7:30 P.M. We will try to have the stream going by 7 P.M. to work out any technical problems. Here's how to conntect if you simply want to watch the meeting:

1. Go to UARC's YouTube channel at https://www.youtube.com/channel/UC-zXimUZAog6eyBcU8tj4rg. (You may find it easier to go to: http://www.utaharc.org/meeting and follow the link there.)

2. Choose the appropriate channel for the meeting. Look for "Utah Amateur Radio Club Meeting ***Live***." You may have to do a little scrolling to find it among other offerings of prior meetings and other UARC activities.

If you would like to be able to *interact* (e.g. ask questions of the presenters), read the instructions at utaharc.org/youtube.

Our Cover

Our cover this month features the two towers at the Nothern Utah WebSDR near Corinne, Utah. The one in the foreground is the principal antenna for most of the supported HF frequency ranges. It is some 94 feet tall and provides 6 dB of gain in all directions (no, that's not a typo!). Frequency range is from 3 to 30 MHz. The actual antenna elements are wires spread around the tower and through most of its length.

The tower to the left supports a large Yagi which provides gain to the east.

Field Day Plans (or lack thereof)

We do not know at this time whether it will be practical to have a traditional Field Day operation in the mountains.

Field Day is the most popular operating event in all of amateur radio. It is an event centered around portable and mobile operation where portable and mobile stations try to make as many contacts as possible in a 24- or 27-hour period. Typical club operations involve a group activity where stations are set up somewhere in the wild and operators camp at the site and take turns operating.

ARRL, the sponsor of the event, recommends that, in case we can't have the traditional activity, we be creative in finding alternatives.

One that they suggest is to have club members operate as "Class D" or "Class E" entries from their home stations and identify the club they represent when they submit their entries. ("Class D" means a home station operating on commercial power. "Class E" means a home station running on emergency power.) The listings will not include a calculated aggregate club scores, but will mention the club for each entry, so competing clubs can make their own calculations.

Would this type of activity interest our members? If you have some ideas, share them with any of the officers.

The vast majority of Field Day activity is on the HF bands. That would seem to exclude Technicians (unless they would like to operate CW). But Technicians can still make contacts at another ham's station as long as there is a properly licensed control operator in the room (or tent). The Field Day rules allow multi-operator stations.

Lonnie, K7LO, our Executive Vice-President, has already obtained the special use permit for us to go to our traditional site near Payson Lakes. In case rules and risks look favorable, we still might be able to have the traditional Field Day entry, but we can't count on it yet.

Rocky Mountain Division Convention

This year's ARRL Rocky Mountain Division Convention will be the "HamCon Colorado 2020" event to be held at the University of Colorado South Denver. Guest speakers will include ARRL President, Rick Roderick, K5UR; Lab Supervisor Ed Hare, W1RFI; and Riley Hollingsworth, K4ZDH, administrator of the new Official Monitor program.

The program will include vendors, contests, and a chance to operate the W1AW/∅ station that will be available there.

The event will take place on August 7-9 (Friday through Sunday). The main convention will be all day Saturday and Sunday. DX University will be available on Friday as an extra-cost option.

Will large crowds be allowable by August? Apparently the organizing group is counting on it and is moving forward with the plans.

For more information go to:
https://www.hamconcolorado.com/.

Remote Receivers in the Days of *(social)* Distancing

By Clint Turner, KA7OEI

In these uncertain days many amateur radio operators are uniquely equipped to stay in touch as the hobby affords us means unavailable to the general public — the ability to reach out to old friends — and make new ones — over the air. Besides our local repeaters we also have the HF bands allowing us social contact across the state and the world.

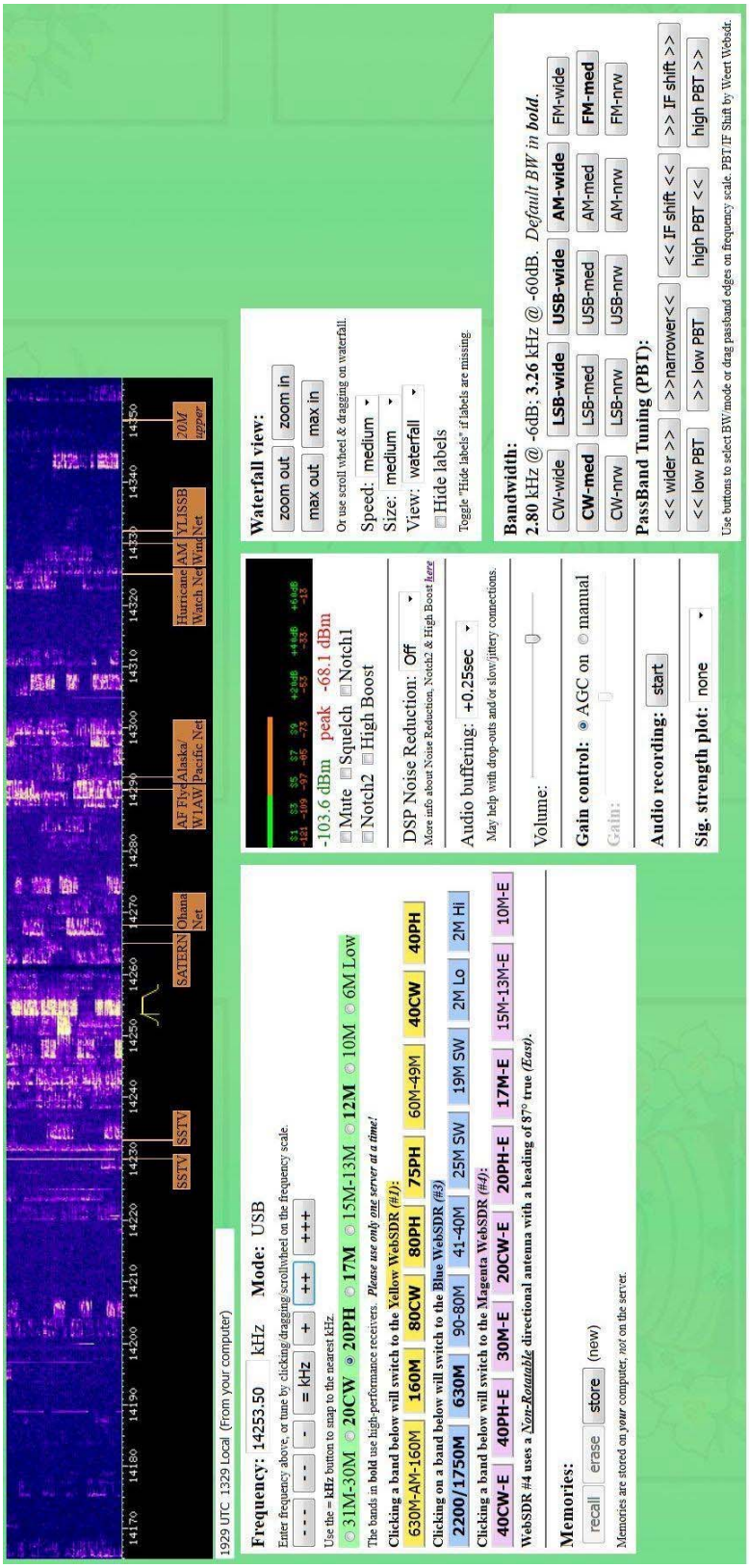
One tool that can help this effort is a network of Internet-connected remote receivers — namely the system of WebSDRs around the world. These receivers — which span from below the lowest amateur band through at least 10 GHz — are listed on an interactive table at **websdr.org**. To use these systems you need only a computer, tablet or smart phone with sound capability, and a web browser to access your own virtual receiver, sharing the system with dozens of users at the same time.

Because we must obey the laws of physics, these are receive-only systems — but by being able to leverage a relatively RF-quiet site with a good antena system, a WebSDR can supply to many amateurs what is often that critical missing "half" of many amateurs' home HF station — a good receiver — especially if one is faced with the common malady of an ever-increasing local noise floor. One such system, the Northern Utah WebSDR *(**sdrutah.org**)*, is practically in our back yard — but HF propagation being what it is, it's often the case that stations on HF are ***too*** close to each other to communicate directly and that's where geographic diversity is a benefit. Other WebSDR systems are often available to fill in the gaps.

As with modern radios, the WebSDRs sport a "waterfall" display — a graphical representation of what is happening on the band: The most recent signals appear at the bottom, scrolling up over time with the stronger signals being "brighter" offering an at-a-glance view of what is happening now — and what has happened very recently. Features like adjustable-width filters, notch filters, and, increasingly, DSP noise reduction, are also available.

In addition to helping make QSOs, participating in nets and round tables, or just casual listening, a WebSDR can also help you improve ***your*** station — both receive and transmit. If you hear a lot of stations on your local WebSDR that you simply cannot hear on yours, you may have a previously unknown noise problem — the remote recieiver offering aspirational goals. On the transmit side, being able to transmit — and hear yourself — allows the comparison of antennas by observing the S-meter and taking advantage of available signal strength plotting. WebSDR systems can also help solve audio problems by using the "Audio Recording" function, letting you and others analyze and compare the "sound" of stations on the air.

(See what the user's control panel looks like in the image on the following page.)



More News

Leamington to get Yagi

UARC's Board and other volunteers are working at equipping the club's remote-controlled HF station with an 11-element Yagi. The elements of the beam have been acquired, but somehow the boom and attaching hardware were missing. We are now working on finding substitute hardware and working out an interface to the rotor. We hope that the antenna will be available to users of the station by the end of this year.

The remote station is available to any UARC member with the appropriate license class for the kind of HF operating he would want to do. For full details, go to the club's web site at: http://user.xmission.com/~uarc/HFRemote.html.

Presenters Needed

Our original plan for meeting program topics has run into problems because of CORVID-19 issues and the need to do some of our meetings with electronic distribution instead of having presenter and audience in the same room. Some of the folks we had scheduled for presentations were not comfortable with this mode. We completely understand their feelings. It's harder to know how well your points are getting across to an invisible audience.

However, there are advantages to on-line presenting as well. You can give the whole presentation from the familiar surroundings of your own home and bring up any necessary visual aids on your own computer.

The officers would love to hear from anyone who would like to talk to the group at one of the next few meetings. It doesn't necessarily have to be a scholarly work that fills an hour or more. It could be ten minutes telling us of your experiences with a new piece of equipment or a new antenna design. It might be about the clever way that a public service event was organized and executed, or your experience with some of the digital voice modes on VHF and UHF.

If you think you or someone you know can survive talking to a computer instead of an audience in sight, let us know. Our Program Chairpersons' and other officers' contact information can be found on the inside front cover.

New Q-Signals

Dave Sanders, K7RGY, sent us this suggestion for new Q-Signals appropriate for our time:

QLD	I am locked down.
QUA	I am quarantined.
QPD	I am in the middle of a pandemic.
QTP	I have toilet paper. Want to trade for a new car?
QFC	I am flattening the curve.
QHG	I need a hug.
QSH	I am sheltering in place.
QHS	I have hand sanitizer. Want to trade for *two* new cars?
QSD	I am observing social distancing.
QCV	I hate Coronavirus!

New Solar Cycle 24 Prediction

Frank Donovan, W3LPL, notes that the National Oceanic and Atmospheric Administration (NOAA) Space Weather Prediction Center https://www.swpc.noaa.gov/ has published its official updated prediction of Solar Cycle 25 in new, interactive solar cycle progression graphs (https://www.swpc.noaa.gov/products/solar-cycle-progression). The updated prediction is based on the results of NOAA's Solar Cycle 25 Prediction Panel.

"While this is SWPC's official Cycle 25 prediction, it's important to note there is still divergence among various forecasting methods and members of the space weather forecasting community," Donovan said. "Most forecasts and forecasters agree that the Cycle 25 peak is likely to be within ±20% of [the current] Cycle 24 and is likely to occur between 2024 and 2027."

Higher sunspot numbers generally mean that our higher HF bands will be open for longer periods.

Member of the Month

Sam Carter, KJ7AXQ

By Linda Reeder, N7HVF

This month we are featuring Sam Carter, KJ7AXQ. Sam was exposed to amateur radio when he was a young boy living in southern California where his grandfather was active. His grandfather had a room in his house designated just for amateur radio. It contained a big map he used when talking to people all around world. Sam used to listen to short wave radio and the A.M. bands as well. It wasn't until years later when Phil, Sam's neighbor, got him interested in getting his

amateur radio license. Phil Chaffee, N7CPR, is very active in emergency communications. Phil let Sam listen to the repeater. Sam thought that it would be nice to be able to help in emergency communications. He studied hard, and in October, 2019, Sam received his Technician license. He is thinking about upgrading next year.

Sam has a Yaesu FT-60. He has two hand-held radios and a TM-V71A. Sam likes to talk to people on the 146.62 repeater. He has fun meeting new people. He loves building new antennas and tries to make things sound better.

Sam loves to travel with his ham transceivers and learn about different repeaters and locations. One of the big reasons Sam got into this hobby was to help in emergency communications. Well, Sam's big opportunity to help in a real emergency happened on Wednesday, March 18, 2020, at 7:05 in the morning when the Salt Lake Valley was rocked by an earthquake. The epicenter was in Magna and strength was a 5.7. Sam got on the 146.62 repeater where he was very busy copying important information such as phone numbers and addresses plus other information.

He found where the earthquake was centered. He did a great job. This was a great experience for Sam and will be an event to remember. It may have become even moreseo because as I was writing this story we had another earthquake. It was April 14, 2020, 9 PM, with a magnitude of 4.1. The Epicenter was in Magna again.

Sam works for Eaton Corporation. He designs electrical equipment in buildings and has worked there for five years.

Sam and his wife, Melissa, have four children: three boys and one girl. Sam is trying to get his wife, Melissa, interested in amateur radio. He would also like to get his children interested in the hobby.

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Sam is a member of UARC and the VHF Society. He enjoys hiking and spending lots of time outside whenever possible.

Sam, we wish you the best in all your endeavors.

Sam, KJ7AXQ